



**Queens County Regional Landfill
Groundwater Monitoring – 2021**

Miltonvale, Queens County, PE

December 17, 2021

Prepared for:

Island Waste Management Corporation
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Project No. 121431175 200.203

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1.0 INTRODUCTION

Stantec conducted the 2021 Groundwater Monitoring Program (the Program) at the Queens County Regional Landfill (QCRL; the Site) as per the request of Island Waste Management Corporation (IWMC), as a one-year extension of the contract between Stantec and IWMC for Groundwater Monitoring – PEI Landfill Sites dated May 3, 2016. The purpose of the Program is to provide annual monitoring of the groundwater quality at the Site, including the review of significant trends. This report contains a summary of the field program, the current and historical results, and Stantec's observations based on the data obtained.

2.0 SITE DESCRIPTION

The former QCRL, also referred to as the former Sleepy Hollow Landfill, is located within the Community of Miltonvale (Sleepy Hollow), Queens County, Prince Edward Island. The former QCRL was in operation from 1986 to 2003. Prior to opening, it was subject to a detailed hydrogeological investigation. The landfill site lies in the Sleepy Hollow district of Miltonvale Park and is located approximately 200 m south of the Sleepy Hollow Provincial Correctional Centre. The North River lies to the west, southwest, south, and southeast of the Site. A mobile home subdivision is located approximately 250 m to the southeast of the Site and several single-family dwellings are located some 450 m due south of the Site.

The land in the area of the former landfill slopes to the south and southwest towards the North River at a gradient of approximately 2 to 4 percent. Prior to the opening of the landfill, the dominant land use in the vicinity was agricultural and institutional. A portion of the area was undeveloped forested land which occupied a section of marsh averaging 50 m in width extending along the shore of North River.

During operation, the landfill was used as the disposal site for the greater Queens County region with disposal of domestic garbage and other materials under special permit of the former Prince Edward Island Department of Environment, Energy and Forestry (PEIDEEF), currently the PEI Department of Environment, Water and Climate Change (PEI EWCC). The Site has a monitoring system (i.e., groundwater monitoring wells) surrounding the landfill to measure leachate from the Site and identify the potential for off-site migration.

3.0 SITE CLASSIFICATION AND REGULATORY FRAMEWORK

The Site is classified as commercial/industrial with potable groundwater use and coarse-grained soil type. For this assessment, groundwater analytical results were compared to the Health Canada Guidelines for Canadian Drinking Water Quality (GCDWQ – current to September 2020). GCDWQ are given as a Maximum Allowable Concentration (MAC), Aesthetic Objective (AO), or Operational Guideline (OG). The OGs (for aluminum, turbidity, and pH) were not used for comparison purposes as they are used to assess the treatability of drinking water. There are no guideline values given for dioxins and furans within the GCDWQ.



4.0 SAMPLING METHODOLOGY

4.1 GROUNDWATER SAMPLING

Prior to groundwater sampling, field equipment was cleaned and decontaminated. The monitoring wells were purged a minimum of three well volumes and allowed to recover to ensure that representative groundwater from the surrounding formation had been drawn into the monitoring well casings. Groundwater samples were then collected from the monitoring wells for laboratory analyses.

4.2 QUALITY ASSURANCE/QUALITY CONTROL

Samples were uniquely labelled, and control was maintained through the use of chain of custody forms. Samples were collected in laboratory-supplied containers and placed in a cooler with ice, as directed by the laboratory. Samples were submitted for analyses to Bureau Veritas Laboratories (BV Labs) in Bedford, Nova Scotia. BV Labs is accredited by the SCC and maintains formal in-house QA/QC programs, including analyses of laboratory duplicates as well as analyses of spikes and blanks.

A field duplicate was not collected during the sampling event.

5.0 2021 FIELD PROGRAM

On June 17, 2021, 17 groundwater monitoring wells were sampled at the former QCRL (refer to Drawing No. 1, Appendix A for well locations). The monitoring wells sampled were as follows: SH-1, SH-2, SH-3, SH-4, SH-5, SH-6, SH-8, SH-9, SH-10, SH-11, SH-12, SH-13, SH-14, SH-15, SH-16, SH-17, and SH-19.

The groundwater samples collected from monitoring wells were submitted for the following analyses:

- Metals
- General chemistry
- Other inorganic parameters:
 - Chemical oxygen demand (COD)
 - Total kjeldahl nitrogen (TKN)
 - Total suspended solids (TSS)
 - Total phosphorus (P)
 - Phenolics
- Volatile Organic Compounds (VOCs) and Polychlorinated Biphenyls (PCBs) – for monitoring wells SH-5 and SH-10 only
- Dioxins and Furans – for monitoring wells SH-5 and SH-10 only

The 2021 analytical results are presented in Appendix B (Tables B-1 to B-5). Select historical data has been used to display five-year trend graphs (refer to Section 7.0 and Appendix C). The Laboratory Certificate of Analysis for the 2021 sampling event is provided in Appendix D.



6.0 SUMMARY OF ANALYTICAL RESULTS

6.1 METALS

Analytical results for metals are presented in Table B-1 (Appendix B). All groundwater metals concentrations met the GCDWQ, except the following:

- Iron concentrations above the AO of $\leq 300 \mu\text{g/L}$ were reported for monitoring wells SH-3, SH-5, SH-6, SH-9, and SH-19
- Manganese concentrations above the MAC of $120 \mu\text{g/L}$ were reported for monitoring wells SH-3, SH-9, SH-10, and SH-19.
- Manganese concentrations above the AO of $\leq 20 \mu\text{g/L}$ were reported for monitoring wells SH-2, SH-3, SH-6, SH-9, SH-10, and SH-19.

6.2 GENERAL CHEMISTRY

Analytical results for general chemistry are presented in Table B-2 (Appendix B). All groundwater general chemistry concentrations met the GCDWQ, except the following:

- The Total Dissolved Solids (TDS) concentration above the AO of $\leq 500 \text{ mg/L}$ was reported for monitoring well SH-3.

6.3 OTHER INORGANIC PARAMETERS

Analytical results for the suite of parameters including COD, TKN, TSS, P, and phenolics are presented in Table B-3 (Appendix B). There are GCDWQ given for these parameters.

6.4 VOCs AND PCBs

Analytical results for VOCs and PCBs for groundwater samples collected from select monitoring wells are presented in Table B-4 (Appendix B). Concentrations of VOCs and PCBs were not detected above the laboratory's reportable detection limits (RDLs) which met the GCDWQ.

6.5 DIOXINS AND FURANS

Analytical results for dioxin and furan analysis from select monitoring wells are presented in Table B-5 (Appendix B). Concentrations of dioxins and furans were not detected above the laboratory's RDLs, with the exception of the following:

- 1,2,3,4,6,7,8,-Heptachlorodibenzo-p-dioxin and Octachlorodibenzo-p-dioxin detected in the groundwater sample collected from monitoring well SH-5
- Octachlorodibenzo-p-dioxin detected in the groundwater sample collected from monitoring well SH-10

There are no GCDWQ given for these parameters.



7.0 TRENDS

Five-year trend graphs (2017-2021) for hardness, alkalinity, chloride, ammonia-N, and phosphorous concentrations in groundwater are presented as Figures C.1 to C.5, respectively, in Appendix C. Highlights indicate:

- Concentrations of hardness, alkalinity, chloride, and ammonia-N in monitoring well SH-10 have decreased in 2021.
- Concentrations of hardness and alkalinity in monitoring well SH-3 have increased and are greater than concentrations in all of the monitoring wells in 2021.
- Alkalinity concentrations have fluctuated over the last five years. Alkalinity concentrations decreased noticeably in monitoring wells SH-6, SH-9, and SH-10 in 2021.
- Chloride concentrations in monitoring well SH-3, SH-6, and SH-17 increased slightly in 2021. The chloride concentration in monitoring well SH-10 is trending down.
- Ammonia-N concentrations remain stable and at or near the laboratory's RDL in the monitoring wells with the exception of SH-3, SH-9, and SH-10 which have historically been greater than the rest of the monitoring wells. Ammonia-N concentrations in monitoring well SH-10 are trending down, and concentrations in SH-3 increased in 2021 to its highest concentration in five years.
- Phosphorous concentrations in monitoring well SH-9 decreased noticeably in 2021. Phosphorous concentrations in SH-1, SH-2, and SH-14 increased from 2020 to 2021.

8.0 CONCLUSION

The annual groundwater monitoring program was completed at the former QCRL on June 17, 2021. Results from the 2021 monitoring event are generally consistent with historical results. Exceedances of the GCDWQ were reported at various monitoring wells for the following parameters: iron (AO), manganese (MAC and/or AO), and TDS (AO). It is recommended that the groundwater monitoring results report be forwarded to the PEI Department of Environment, Energy, and Climate Action for review.

9.0 CLOSURE

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified property.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. There are no assurances regarding the accuracy and completeness of this information. All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

The opinions in this report can only be relied upon as they relate to the condition of the portion of the identified property that was assessed at the time the work was conducted. Activities at the property



QUEENS COUNTY REGIONAL LANDFILL GROUNDWATER MONITORING – 2021

subsequent to Stantec's assessment may have significantly altered the property's condition. Stantec cannot comment on other areas of the property that were not assessed.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition. This report should not be construed as legal advice.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report.

The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or subsurface utilities and structures are not guaranteed. Before starting work, the exact location of all such utilities and structures should be confirmed and Stantec assumes no liability for damage to them.

The conclusions are based on the site conditions encountered by Stantec at the time the work was performed at the specific testing and/or sampling locations, and conditions may vary among sampling locations. Factors such as areas of potential concern identified in previous studies, site conditions (e.g., utilities) and cost may have constrained the sampling locations used in this assessment. In addition, analysis has been carried out for only a limited number of chemical parameters, and it should not be inferred that other chemical species are not present. Due to the nature of the investigation and the limited data available, Stantec does not warrant against undiscovered environmental liabilities, nor that the sampling results are indicative of the condition of the entire site. As the purpose of this report is to identify site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the site is beyond the scope of this assessment.

We trust that this report contains all of the information required at this time and are available at your convenience should you have any questions. The primary author of this report was Danielle Manuel, B.Sc. It was reviewed by Evelyn Bostwick, M.Eng., P.Eng.

Regards,

STANTEC CONSULTING LTD.

Stephanie Griffin, P.Eng.
Project Manager
Environmental Services
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QUEENS COUNTY REGIONAL LANDFILL GROUNDWATER MONITORING – 2021

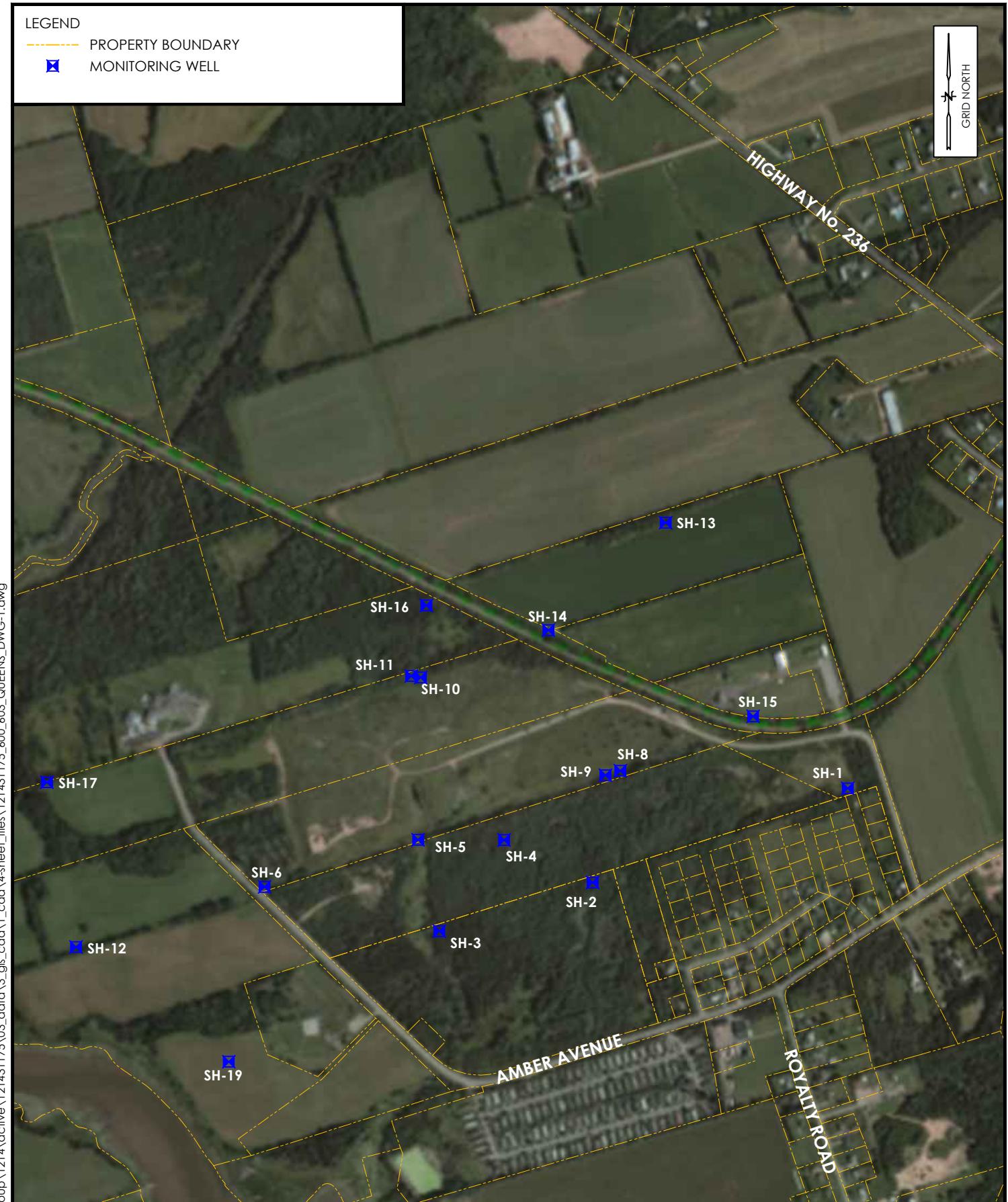
Appendix A DRAWING 1



LEGEND

PROPERTY BOUNDARY

MONITORING WELL



THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC CONSULTING LTD. REPORT AND MUST NOT BE USED FOR OTHER PURPOSES.

SAMPLE LOCATION PLAN
QUEENS COUNTY REGIONAL LANDFILL
HIGHWAY No. 236, MILTONVALE, QUEENS COUNTY, PEI

Job No.: 121431175

Scale: N.T.S.

Date: 10-SEP-2021

Dwn. By: WJD

App'd By: SG



1

Appendix B ANALYTICAL SUMMARY TABLES



Table B-1. Water Analyses - Metals - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	SH-1							SH-2							
				GCDWQ			Jul-17	Jul-18	Jul-19	Jul-19 LD	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jul-20 LD	Jun-21
Aluminum	µg/L	5	100/200 (OG)	15.1	<5.0	5.3	-	8.2	10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	6.2	
Antimony	µg/L	2	6 (MAC)	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Arsenic	µg/L	2	10 (MAC)	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	
Barium	µg/L	5	2,000 (MAC)	57.4	46.2	49.3	-	59	62	134	363	128	150	150	150	150	150	
Beryllium	µg/L	2	-	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Bismuth	µg/L	2	-	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Boron	µg/L	5	5,000 (MAC)	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Cadmium	µg/L	0.017	7 (MAC)	<0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Chromium	µg/L	2	50 (MAC)	1.2	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Cobalt	µg/L	0.4	-	<0.40	<0.40	<0.40	-	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	
Copper	µg/L	2	2,000 (MAC), 1,000 (AO)	<2.0	<2.0	<0.50	-	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
Iron	µg/L	50	≤300 (AO)	<50	<50	<50	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	68	
Lead	µg/L	0.5	5 (MAC)	<0.50	<0.50	<0.50	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
Manganese	µg/L	2	120 (MAC), ≤20 (AO)	10.6	<2.0	<2.0	-	<2.0	<2.0	<2.0	20	<2.0	12.0	28	28	43		
Mercury	µg/L	0.01	1 (MAC)	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	-	<0.013	
Molybdenum	µg/L	2	-	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Nickel	µg/L	2	-	<2.0	<2.0	<2.0	-	<2.0	<2.0	8.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Selenium	µg/L	1	50 (MAC)	<1.0	<1.0	<1.0	-	<0.50	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	
Silver	µg/L	0.1	-	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Strontium	µg/L	5	7,000 (MAC)	21.1	19.0	20.3	-	21	24	24.2	155	25.1	27	28	28			
Thallium	µg/L	0.1	-	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Tin	µg/L	2	-	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Titanium	µg/L	2	-	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Uranium	µg/L	0.1	20 (MAC)	0.22	<0.10	0.15	-	0.12	0.14	<0.10	1.32	0.11	<0.10	0.10	0.11			
Vanadium	µg/L	2	-	<2.0	<2.0	<2.0	-	<2.0	<2.0	<2.0	3.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Zinc	µg/L	5	≤5,000 (AO)	5.3	<5.0	<5.0	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration

AO: Aesthetic Objective

OG: Operational Guideline not used for comparison purposes as they

are used to assess the treatability of drinking water

Lab-Dup: Laboratory Initiated Duplicate

Table B-1. Water Analyses - Metals - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	SH-3						SH-4						
				GCDWQ			Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-18 LD	Jul-19	Jul-20
Aluminum	µg/L	5	100/200 (OG)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Antimony	µg/L	2	6 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	µg/L	2	10 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium	µg/L	5	2,000 (MAC)	831	616	842	650	1,300	748	779	777	752	810	840		
Beryllium	µg/L	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bismuth	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Boron	µg/L	5	5,000 (MAC)	160	136	235	140	440	54	53	53	51	60	62		
Cadmium	µg/L	0.017	7 (MAC)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chromium	µg/L	2	50 (MAC)	<1.0	2.9	<1.0	<1.0	<1.0	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt	µg/L	0.4	-	<0.40	<0.40	<0.40	<0.40	0.75	<0.40	<0.40	<0.40	0.49	0.56	0.55		
Copper	µg/L	2	2,000 (MAC), 1,000 (AO)	<2.0	<2.0	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Iron	µg/L	50	≤300 (AO)	529	341	648	510	4,200	<50	<50	<50	<50	<50	<50	<50	<50
Lead	µg/L	0.5	5 (MAC)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Manganese	µg/L	2	120 (MAC), ≤20 (AO)	1,190	635	1,950	840	4,600	50.7	57.2	56.2	71.7	46	42		
Mercury	µg/L	0.01	1 (MAC)	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	-	<0.013	<0.013	<0.013	<0.013
Molybdenum	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Nickel	µg/L	2	-	2.2	<2.0	2.6	<2.0	5.2	<2.0	<2.0	<2.0	<2.0	2.1	2.0	2.2	
Selenium	µg/L	1	50 (MAC)	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50
Silver	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Strontium	µg/L	5	7,000 (MAC)	92.6	71.2	112	78	180	928	932	950	932	920	900		
Thallium	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tin	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Uranium	µg/L	0.1	20 (MAC)	1.32	0.77	0.91	0.97	1.0	43.7	54.3	54.8	55.7	49	50		
Vanadium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Zinc	µg/L	5	≤5,000 (AO)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.6	<5.0	<5.0	<5.0

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration

AO: Aesthetic Objective

OG: Operational Guideline not used for comparison purposes as they

are used to assess the treatability of drinking water

Lab-Dup: Laboratory Initiated Duplicate

Table B-1. Water Analyses - Metals - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	SH-5						SH-6					
				GCDWQ		Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21
Aluminum	µg/L	5	100/200 (OG)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Antimony	µg/L	2	6 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	µg/L	2	10 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium	µg/L	5	2,000 (MAC)	374	351	263	260	280	425	400	281	410	280		
Beryllium	µg/L	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bismuth	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Boron	µg/L	5	5,000 (MAC)	129	133	112	120	120	60	<50	51	98	65		
Cadmium	µg/L	0.017	7 (MAC)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chromium	µg/L	2	50 (MAC)	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt	µg/L	0.4	-	<0.40	0.53	<0.40	<0.40	<0.40	1.45	0.41	0.58	0.65	<0.40		
Copper	µg/L	2	2,000 (MAC), 1,000 (AO)	<2.0	<2.0	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50
Iron	µg/L	50	≤300 (AO)	773	992	<50	540	770	4,750	<50	4,140	6,000	800		
Lead	µg/L	0.5	5 (MAC)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Manganese	µg/L	2	120 (MAC), ≤20 (AO)	127	127	38.7	20	20	188	62.0	71.7	100	25		
Mercury	µg/L	0.01	1 (MAC)	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Molybdenum	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Nickel	µg/L	2	-	2.7	3.5	<2.0	<2.0	2.2	6.4	<2.0	2.6	4.9	2.2		
Selenium	µg/L	1	50 (MAC)	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
Silver	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Strontium	µg/L	5	7,000 (MAC)	42.2	42.8	34.3	35	36	52.6	48.6	39.2	56	38		
Thallium	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tin	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Uranium	µg/L	0.1	20 (MAC)	0.55	0.55	0.49	0.55	0.55	<0.10	<0.10	<0.10	<0.10	0.42	<0.10	
Vanadium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Zinc	µg/L	5	≤5,000 (AO)	<5.0	<5.0	<5.0	<5.0	<5.0	11.4	6.7	5.1	<5.0	<5.0		

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration

AO: Aesthetic Objective

OG: Operational Guideline not used for comparison purposes as they

are used to assess the treatability of drinking water

Lab-Dup: Laboratory Initiated Duplicate

Table B-1. Water Analyses - Metals - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	SH-8						SH-9						
				GCDWQ		Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Lab-Dup	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21
Aluminum	µg/L	5	100/200 (OG)	24.9	<5.0	8.9	13	11	11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Antimony	µg/L	2	6 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Arsenic	µg/L	2	10 (MAC)	2	<1.0	1.8	1.9	1.9	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Barium	µg/L	5	2,000 (MAC)	382	149	362	370	370	380	439	334	409	390	420		
Beryllium	µg/L	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Bismuth	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Boron	µg/L	5	5,000 (MAC)	<50	<50	<50	<50	<50	<50	548	333	449	490	470		
Cadmium	µg/L	0.017	7 (MAC)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.02	0.020	0.022	0.012	0.039	
Chromium	µg/L	2	50 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0
Cobalt	µg/L	0.4	-	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	7.63	6.50	8.81	7.5	7.4	
Copper	µg/L	2	2,000 (MAC), 1,000 (AO)	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	
Iron	µg/L	50	≤300 (AO)	<50	<50	<50	<50	<50	<50	<50	1,510	357	1,500	210	1,200	
Lead	µg/L	0.5	5 (MAC)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
Manganese	µg/L	2	120 (MAC), ≤20 (AO)	5.8	11.1	<2.0	3.2	4.3	4.2	4,910	3,940	4,660	4,300	4,700		
Mercury	µg/L	0.01	1 (MAC)	<0.013	<0.013	<0.013	<0.013	<0.013	-	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	
Molybdenum	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Nickel	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.7	3.1	3.8	3.3	3.6	
Selenium	µg/L	1	50 (MAC)	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	
Silver	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Strontium	µg/L	5	7,000 (MAC)	156	25.6	152	150	150	150	146	119	170	140	140		
Thallium	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Tin	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Titanium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Uranium	µg/L	0.1	20 (MAC)	1.32	0.16	1.37	1.4	1.4	1.4	0.55	0.31	0.35	0.25	1.2		
Vanadium	µg/L	2	-	3.8	<2.0	3.1	3.4	3.6	3.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Zinc	µg/L	5	≤5,000 (AO)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	12.1	<5.0	5.8	<5.0	12	

Notes:

Shaded values exceed GCDWQ

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<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration

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Lab-Dup: Laboratory Initiated Duplicate

Table B-1. Water Analyses - Metals - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	SH-10					SH-11					
				GCDWQ		Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20
Aluminum	µg/L	5	100/200 (OG)	<5.0	<5.0	<5.0	5.2	5.4	27.8	9.5	<5.0	<5.0	<5.0	<5.0
Antimony	µg/L	2	6 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	µg/L	2	10 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium	µg/L	5	2,000 (MAC)	195	161	163	170	130	561	618	532	640	630	
Beryllium	µg/L	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bismuth	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Boron	µg/L	5	5,000 (MAC)	438	509	317	270	170	60	63	<50	54	53	
Cadmium	µg/L	0.017	7 (MAC)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chromium	µg/L	2	50 (MAC)	1.4	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt	µg/L	0.4	-	1.07	0.92	<0.40	0.54	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Copper	µg/L	2	2,000 (MAC), 1,000 (AO)	<2.0	<2.0	0.98	1.2	0.97	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50
Iron	µg/L	50	≤300 (AO)	53	83	<50	<50	<50	<50	<50	<50	<50	<50	<50
Lead	µg/L	0.5	5 (MAC)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Manganese	µg/L	2	120 (MAC), ≤20 (AO)	5,140	4,280	2,120	2,700	610	194	75.0	126	43	12	
Mercury	µg/L	0.01	1 (MAC)	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Molybdenum	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Nickel	µg/L	2	-	5	4.6	3.0	2.8	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Selenium	µg/L	1	50 (MAC)	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	1.0	<1.0	0.90	1.0	
Silver	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Strontium	µg/L	5	7,000 (MAC)	193	190	162	140	83	554	580	533	560	560	
Thallium	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tin	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Uranium	µg/L	0.1	20 (MAC)	0.46	0.33	0.35	0.37	0.29	10.5	13.0	10.4	13	13	
Vanadium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	2.5	
Zinc	µg/L	5	≤5,000 (AO)	10.9	8.9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.3

Notes:

Shaded values exceed GCDWQ

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Lab-Dup: Laboratory Initiated Duplicate

Table B-1. Water Analyses - Metals - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	SH-12						SH-13					
				GCDWQ			Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20
Aluminum	µg/L	5	100/200 (OG)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	103	18.4	51.8	5.7	40	
Antimony	µg/L	2	6 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Arsenic	µg/L	2	10 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Barium	µg/L	5	2,000 (MAC)	31.2	44.3	31.4	36	29	93.5	92.6	89.1	92	86		
Beryllium	µg/L	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Bismuth	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Boron	µg/L	5	5,000 (MAC)	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Cadmium	µg/L	0.017	7 (MAC)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Chromium	µg/L	2	50 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	<1.0	
Cobalt	µg/L	0.4	-	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	
Copper	µg/L	2	2,000 (MAC), 1,000 (AO)	<2.0	<2.0	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	
Iron	µg/L	50	≤300 (AO)	<50	<50	<50	66	190	<50	<50	<50	<50	<50	<50	
Lead	µg/L	0.5	5 (MAC)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
Manganese	µg/L	2	120 (MAC), ≤20 (AO)	14.2	16.2	8.3	22	11	2.2	<2.0	8.3	<2.0	2.1		
Mercury	µg/L	0.01	1 (MAC)	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	
Molybdenum	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Nickel	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Selenium	µg/L	1	50 (MAC)	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	
Silver	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Strontium	µg/L	5	7,000 (MAC)	12.1	16.5	12.0	13	10	13.6	14.0	13.4	13	13		
Thallium	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Tin	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Titanium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Uranium	µg/L	0.1	20 (MAC)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.14	<0.10	<0.10
Vanadium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.2	2.0	<2.0	2.3	2.4		
Zinc	µg/L	5	≤5,000 (AO)	<5.0	<5.0	<5.0	<5.0	<5.0	6.4	10.9	<5.0	<5.0	<5.0	<5.0	

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

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Table B-1. Water Analyses - Metals - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	SH-14						SH-15						
				GCDWQ		Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Lab-Dup	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21
Aluminum	µg/L	5	100/200 (OG)	9.1	5.4	<5.0	<5.0	<5.0	<5.0	-	-	72.1	<5.0	<5.0	<5.0	8.4
Antimony	µg/L	2	6 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	µg/L	2	10 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Barium	µg/L	5	2,000 (MAC)	72.2	102	69.7	87	86	-	-	-	58.6	37.8	46.9	100	53
Beryllium	µg/L	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Bismuth	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	<2.0	<2.0	<2.0	<2.0	<2.0
Boron	µg/L	5	5,000 (MAC)	<50	<50	<50	<50	<50	<50	-	-	<50	<50	<50	<50	<50
Cadmium	µg/L	0.017	7 (MAC)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-	-	<0.010	<0.010	<0.010	<0.010	<0.010
Chromium	µg/L	2	50 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt	µg/L	0.4	-	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	-	-	<0.40	<0.40	<0.40	<0.40	<0.40
Copper	µg/L	2	2,000 (MAC), 1,000 (AO)	<2.0	<2.0	<0.50	<0.50	<0.50	<0.50	-	-	<2.0	<2.0	<0.50	<0.50	<0.50
Iron	µg/L	50	≤300 (AO)	<50	<50	<50	<50	<50	<50	-	-	<50	<50	<50	<50	<50
Lead	µg/L	0.5	5 (MAC)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	-	-	<0.50	<0.50	<0.50	<0.50	<0.50
Manganese	µg/L	2	120 (MAC), ≤20 (AO)	3.7	<2.0	4.1	2.1	4.2	-	-	-	99.2	<2.0	<2.0	<2.0	3.6
Mercury	µg/L	0.01	1 (MAC)	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	-	<0.013	<0.013	<0.013	<0.013	<0.013
Molybdenum	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	<2.0	<2.0	<2.0	<2.0	<2.0
Nickel	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	<2.0	<2.0	<2.0	<2.0	<2.0
Selenium	µg/L	1	50 (MAC)	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	-	-	<1.0	<1.0	<1.0	<0.50	<0.50
Silver	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	<0.10
Strontium	µg/L	5	7,000 (MAC)	17	20.7	16.2	21	20	-	-	-	11.8	10.5	11.8	17	12
Thallium	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	<0.10
Tin	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	<2.0	<2.0	<2.0	<2.0	<2.0
Uranium	µg/L	0.1	20 (MAC)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	-	<0.10	<0.10	<0.10	<0.10	<0.10
Vanadium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-	-	<2.0	<2.0	<2.0	<2.0	<2.0
Zinc	µg/L	5	≤5,000 (AO)	7.6	10.8	5.4	<5.0	<5.0	<5.0	-	-	22.1	8.3	<5.0	<5.0	<5.0

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration

AO: Aesthetic Objective

OG: Operational Guideline not used for comparison purposes as they

are used to assess the treatability of drinking water

Lab-Dup: Laboratory Initiated Duplicate

Table B-1. Water Analyses - Metals - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	SH-16					SH-17					SH-19						
				GCDWQ			Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20
Aluminum	µg/L	5	100/200 (OG)	213	16.7	10.0	<5.0	36	22.5	9.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Antimony	µg/L	2	6 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	µg/L	2	10 (MAC)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium	µg/L	5	2,000 (MAC)	110	108	102	93	84	123	121	127	140	120	712	714	676	740	680		
Beryllium	µg/L	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Bismuth	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Boron	µg/L	5	5,000 (MAC)	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Cadmium	µg/L	0.017	7 (MAC)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.033	
Chromium	µg/L	2	50 (MAC)	1.9	1.5	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Cobalt	µg/L	0.4	-	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40		
Copper	µg/L	2	2,000 (MAC), 1,000 (AO)	<2.0	<2.0	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50	<2.0	<2.0	<0.50	<0.50	<0.50		
Iron	µg/L	50	≤300 (AO)	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	929	475	92	480	
Lead	µg/L	0.5	5 (MAC)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
Manganese	µg/L	2	120 (MAC), ≤20 (AO)	3.8	<2.0	<2.0	<2.0	<2.0	10.9	30.9	<2.0	<2.0	<2.0	1,170	1,230	1,180	1,200	1,200		
Mercury	µg/L	0.01	1 (MAC)	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	
Molybdenum	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Nickel	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2	2.3	2.2	<2.0	<2.0	
Selenium	µg/L	1	50 (MAC)	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<0.50	<0.50	
Silver	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Strontium	µg/L	5	7,000 (MAC)	16.4	16.7	15.6	16	16	18.5	18.2	18.6	19	17	57.3	54.3	52.6	58	51		
Thallium	µg/L	0.1	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
Tin	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		
Titanium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		
Uranium	µg/L	0.1	20 (MAC)	0.11	<0.10	<0.10	<0.10	<0.10	0.13	0.14	0.15	0.14	0.12	0.65	0.79	0.69	0.82	0.63		
Vanadium	µg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		
Zinc	µg/L	5	≤5,000 (AO)	5	<5.0	<5.0	<5.0	<5.0	9.8	9.7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	8.3	

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration

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are used to assess the treatability of drinking water

Lab-Dup: Laboratory Initiated Duplicate

Table B-2. Water Analyses - General Chemistry - Former Queens County Regional Landfill

Parameter	RDL	Units	Health Canada	SH-1							SH-2						
				GCDWQ	Aug-16	Jul-17	Jul-18	Jul-19	Jul-19 LD	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jul-20 LD	Jun-21
Anion Sum	1.1	meq/L	-	3.60	3.53	2.55	2.79	-	3.21	3.48	2.82	3.23	2.78	3.23	-	3.25	
Bicarbonate (as CaCO3)	1	mg/L	-	160	150	100	120	-	140	150	110	110	100	120	-	120	
TDS Calculated	1	mg/L	≤500 (AO)	179	167	128	140	-	160	170	144	172	143	160	-	170	
Carbonate (as CaCO3)	1	mg/L	-	<1	<1	<1	<1	-	<1.0	<1.0	<1	1	<1	<1.0	-	<1.0	
Cation Sum	0.1	meq/L	-	3.61	3.02	2.43	2.77	-	3.17	3.44	2.8	3.04	2.78	3.07	-	3.19	
Hardness (as CaCO3)	1	mg/L	-	170	140	110	130	-	150	160	120	140	120	130	-	140	
Ion Balance	-	%	-	0.140	7.79	2.41	0.360	-	0.630	0.580	0.36	3.03	0.00	2.54	-	0.930	
Langlier Index @ 20C	-	-	-	0.173	-0.064	-0.432	-0.0850	-	0.0530	-0.0850	-0.139	0.133	-0.103	-0.203	-	-0.177	
Langlier Index @ 4C	-	-	-	-0.0770	-0.314	-0.682	-0.336	-	-0.197	-0.335	-0.389	-0.117	-0.354	-0.453	-	-0.427	
Saturation pH @ 20C	-	-	-	7.64	7.72	8.00	7.88	-	7.74	7.68	7.9	7.85	7.94	7.84	-	7.83	
Saturation pH @ 4C	-	-	-	7.89	7.97	8.25	8.13	-	7.99	7.93	8.15	8.10	8.19	8.09	-	8.08	
Total Alkalinity (as CaCO3)	5	mg/L	-	160	160	100	120	-	140	150	110	110	100	120	-	120	
Total Ammonia (as N)	0.05	mg/L	-	0.11	0.05	<0.05	0.06	-	<0.050	<0.050	<0.05	<0.05	0.06	<0.050	-	<0.050	
Colour	5	TCU	≤15 (AO)	<5	<5	<5	<5	-	<5.0	<5.0	<5	<5	6	<5.0	-	<5.0	
Dissolved Organic Carbon	0.5	mg/L	-	0.8	0.7	0.9	<0.5	<0.5	0.6	0.7	1	0.6	0.8	0.6	-	0.7	
Total Organic Carbon	0.5	mg/L	-	<5	<50	<50	<50	-	4.0	5.3	2.4	0.54	<5.0	4.5	-	2.0	
Orthophosphate (as P)	0.01	mg/L	-	0.13	0.09	0.09	0.10	-	0.098	0.092	<0.01	0.04	0.02	0.019	-	<0.010	
pH	-	-	7 - 10.5	7.81	7.66	7.56	7.80	-	7.79	7.60	7.76	7.98	7.83	7.63	-	7.66	
Reactive Silica (as SiO2)	0.5	mg/L	-	6.2	5.8	5.5	5.7	-	6.1	5.8	4.9	7.5	5.0	5.2	-	4.7	
Sulphate	2	mg/L	≤500 (AO)	3.0	3	3	3	-	3.1	2.7	4	6	4	4.7	-	5.7	
Turbidity	0.1	NTU	1 (OG)	460	580	170	>1,000	-	>1,000	450	61	14	140	250	-	110	
Chloride	1	mg/L	≤250 (AO)	12	12	15	14	-	13	14	16	19	20	25	-	26	
Conductivity	1	uS/cm	-	330	310	250	280	-	320	320	260	320	280	330	-	310	
Nitrate (as N)	0.05	mg/L	10 (MAC)	0.13	0.16	0.19	0.15	-	0.22	0.13	0.69	4.0	0.49	0.70	-	0.60	
Nitrite (as N)	0.01	mg/L	1 (MAC)	<0.010	<0.01	<0.01	<0.01	-	<0.010	<0.010	<0.01	<0.01	0.01	<0.010	-	<0.010	
Nitrate + Nitrite (as N)	0.05	mg/L	-	0.13	0.16	0.19	0.15	-	0.22	0.13	0.69	4.0	0.50	0.70	-	0.60	
Sodium	0.1	mg/L	≤200 (AO)	5,140	4,940	5,010	5,260	-	4.7	5,800	7,760	6,860	8,130	8,300	8,400	-	9,800
Potassium	0.1	mg/L	-	1,530	1,430	1,380	1,280	-	1.3	1,400	1,770	1,400	1,650	1,500	1,600	-	1,600
Calcium	0.1	mg/L	-	34,800	29,000	22,700	26,100	-	31	33,000	26,100	29,800	25,600	29,000	29,000	-	29,000
Magnesium	0.1	mg/L	-	19,500	16,100	12,600	14,600	-	17	18,000	13,600	14,900	13,300	15,000	15,000	-	15,000
Dissolved Phosphorous	0.1	mg/L	-	0.131	<0.100	0.127	0.144	-	0.13	0.100	<0.100	<0.100	<0.100	<0.1	<0.1	<0.100	

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration; AO: Aesthetic Objective

OG: Operational Guideline not used for comparison purposes as they are used to assess the treatability of drinking water

Lab-Dup: Laboratory Initiated Duplicate

Table B-2. Water Analyses - General Chemistry - Former Queens County Regional Landfill

Parameter	RDL	Units	Health Canada	SH-3						SH-4						
				GCDWQ	Jul-17	Jul-18	Jul-19	Jul-20	Jul-20 LD	Jun-21	Jul-17	Jul-18	Jul-18 LD	Jul-19	Jul-20	Jul-20 LD
Anion Sum	1.1	meq/L	-	8.89	6.66	8.74	7.04	-	12.7	8.53	8.29	-	7.31	8.28	-	8.11
Bicarbonate (as CaCO3)	1	mg/L	-	300	230	310	250	-	420	250	220	-	240	240	-	240
TDS Calculated	1	mg/L	≤500 (AO)	441	336	439	350	-	650	423	419	-	376	420	-	410
Carbonate (as CaCO3)	1	mg/L	-	1	<1	<1	<1.0	-	<1.0	2	1	-	1	2.0	-	1.5
Cation Sum	0.1	meq/L	-	7.99	6.22	8.11	6.46	-	12.0	7.78	7.69	-	7.48	7.79	-	7.72
Hardness (as CaCO3)	1	mg/L	-	310	240	300	250	-	410	330	320	-	310	330	-	320
Ion Balance	-	%	-	5.33	3.42	3.74	4.30	-	2.67	4.6	3.75	-	1.15	3.05	-	2.46
Langlier Index @ 20C	-	-	-	0.578	0.313	0.310	0.164	-	0.352	0.709	0.433	-	0.506	0.711	-	0.569
Langlier Index @ 4C	-	-	-	0.33	0.0640	0.0620	-0.0840	-	0.104	0.461	0.184	-	0.257	0.463	-	0.321
Saturation pH @ 20C	-	-	-	7.14	7.33	7.14	7.27	-	6.88	7.22	7.28	-	7.24	7.23	-	7.24
Saturation pH @ 4C	-	-	-	7.39	7.57	7.39	7.52	-	7.13	7.47	7.52	-	7.49	7.48	-	7.49
Total Alkalinity (as CaCO3)	5	mg/L	-	300	230	310	260	-	420	250	220	-	240	250	250	240
Total Ammonia (as N)	0.05	mg/L	-	1.4	0.67	1.9	1.1	-	4.5	<0.05	<0.05	-	0.06	<0.050	-	<0.050
Colour	5	TCU	≤15 (AO)	10	<5	9	<5.0	-	5.9	<5	<5	-	<5	5.8	6.6	<5.0
Dissolved Organic Carbon	0.5	mg/L	-	2	1.5	2.6	1.2	-	5.0	1.7	1.3	-	0.9	1.0	-	1.0
Total Organic Carbon	0.5	mg/L	-	2	<5.0	2.6	1.3	-	4.6	9	<5.0	-	<5.0	2.1	-	1.4
Orthophosphate (as P)	0.01	mg/L	-	<0.01	<0.01	<0.01	0.038	-	<0.010	<0.01	<0.01	-	<0.01	<0.010	<0.010	<0.010
pH	-	-	7 - 10.5	7.72	7.64	7.45	7.44	-	7.24	7.93	7.71	-	7.75	7.94	7.88	7.81
Reactive Silica (as SiO2)	0.5	mg/L	-	6.2	6.1	6.2	6.6	-	7.0	8.2	8.2	-	8.6	9.1	8.8	9.1
Sulphate	2	mg/L	≤500 (AO)	15	11	13	12	-	24	12	23	-	12	16	16	13
Turbidity	0.1	NTU	1 (OG)	28	70	60	23	23	67	630	450	-	720	390	-	230
Chloride	1	mg/L	≤250 (AO)	87	59	77	58	-	130	120	120	-	79	110	110	110
Conductivity	1	uS/cm	-	790	620	820	680	-	1,200	780	790	-	790	760	790	800
Nitrate (as N)	0.05	mg/L	10 (MAC)	0.63	1.1	0.38	0.75	-	0.070	0.16	0.13	-	0.12	0.15	-	0.16
Nitrite (as N)	0.01	mg/L	1 (MAC)	<0.01	<0.01	0.01	0.012	-	<0.010	0.01	0.01	-	0.03	0.012	0.011	<0.010
Nitrate + Nitrite (as N)	0.05	mg/L	-	0.63	1.1	0.39	0.76	-	0.070	0.18	0.15	-	0.14	0.16	0.14	0.16
Sodium	0.1	mg/L	≤200 (AO)	35,500	27,100	42,000	27	-	68,000	27,000	27,300	27,500	25,900	27	-	28,000
Potassium	0.1	mg/L	-	6,800	4,770	8,460	5.7	-	17,000	3,110	3,020	3,030	2,930	3	-	3,000
Calcium	0.1	mg/L	-	68,600	54,500	66,500	57	-	97,000	68,300	67,100	67,500	66,000	68	-	68,000
Magnesium	0.1	mg/L	-	33,200	25,900	31,400	27	-	41,000	37,900	37,400	37,800	36,300	38	-	37,000
Dissolved Phosphorous	0.1	mg/L	-	<0.100	<0.100	<0.100	<0.1	-	<0.100	<0.100	<0.100	<0.100	<0.100	<0.1	-	<0.100

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration; AO: Aesthetic Objective

OG: Operational Guideline not used for comparison purposes as they are used to assess the treatability of drinking water

Lab-Dup: Laboratory Initiated Duplicate

Table B-2. Water Analyses - General Chemistry - Former Queens County Regional Landfill

Parameter	RDL	Units	Health Canada	SH-5						SH-6					
				GCDWQ	Jul-17	Jul-18	Jul-18 LD	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-19 LD	Jul-20
Anion Sum	1.1	meq/L	-	8.24	7.55	-	6.41	6.66	6.76	7.72	8.24	4.86	-	7.27	5.49
Bicarbonate (as CaCO3)	1	mg/L	-	320	290	-	260	270	270	130	85	110	-	220	84
TDS Calculated	1	mg/L	≤500 (AO)	405	380	-	316	330	340	421	438	271	-	370	300
Carbonate (as CaCO3)	1	mg/L	-	1	<1	-	<1	<1.0	<1.0	<1	<1	<1	-	<1.0	<1.0
Cation Sum	0.1	meq/L	-	7.54	7.31	-	5.98	6.28	6.51	7.58	7.14	5.09	-	6.69	5.11
Hardness (as CaCO3)	1	mg/L	-	300	290	-	240	260	270	180	160	120	-	180	120
Ion Balance	-	%	-	4.44	1.62	-	3.47	2.94	1.88	0.92	7.15	2.31	-	4.15	3.58
Langlier Index @ 20C	-	-	-	0.527	0.269	-	0.252	0.253	0.337	-0.808	-0.416	-0.949	-	-0.441	-1.36
Langlier Index @ 4C	-	-	-	0.278	0.0200	-	0.00300	0.00400	0.0880	-1.06	-0.664	-1.20	-	-0.690	-1.61
Saturation pH @ 20C	-	-	-	7.12	7.16	-	7.28	7.24	7.22	7.73	7.98	7.94	-	7.47	8.06
Saturation pH @ 4C	-	-	-	7.37	7.41	-	7.53	7.49	7.47	7.98	8.23	8.19	-	7.72	8.31
Total Alkalinity (as CaCO3)	5	mg/L	-	320	300	-	260	270	270	130	85	110	-	220	84
Total Ammonia (as N)	0.05	mg/L	-	0.07	0.11	0.11	<0.05	<0.050	<0.050	0.06	<0.05	0.05	-	<0.050	<0.050
Colour	5	TCU	≤15 (AO)	<5	<5	-	7	<5.0	<5.0	76	<5	42	-	<5.0	<5.0
Dissolved Organic Carbon	0.5	mg/L	-	2	1.8	-	1.0	1.0	0.9	1.6	1.0	1.1	-	3.4	1.2
Total Organic Carbon	0.5	mg/L	-	3.6	2.1	-	<5.0	1.5	1.5	2.5	<5.0	1.3	1.2	3.5	1.3
Orthophosphate (as P)	0.01	mg/L	-	<0.01	<0.01	-	<0.01	<0.010	<0.010	<0.01	<0.01	<0.01	-	<0.010	<0.010
pH	-	-	7 - 10.5	7.65	7.43	-	7.53	7.49	7.56	6.92	7.56	7.00	-	7.03	6.70
Reactive Silica (as SiO2)	0.5	mg/L	-	6.0	6.0	-	5.8	6.0	5.8	3.5	3.8	3.9	-	4.2	4.5
Sulphate	2	mg/L	≤500 (AO)	16	16	-	12	17	16	15	17	11	-	16	15
Turbidity	0.1	NTU	1 (OG)	220	140	-	250	280	430	210	74	160	-	89	120
Chloride	1	mg/L	≤250 (AO)	48	42	-	30	30	32	170	220	89	-	87	120
Conductivity	1	uS/cm	-	690	680	-	580	610	620	800	970	640	-	700	580
Nitrate (as N)	0.05	mg/L	10 (MAC)	1.5	1.8	-	1.1	0.89	1.2	0.24	0.53	0.29	-	0.052	0.78
Nitrite (as N)	0.01	mg/L	1 (MAC)	0.04	0.02	-	0.07	0.038	0.057	<0.01	<0.01	0.01	-	0.010	<0.010
Nitrate + Nitrite (as N)	0.05	mg/L	-	1.5	1.8	-	1.2	0.93	1.2	0.24	0.53	0.31	-	0.062	0.78
Sodium	0.1	mg/L	≤200 (AO)	32,100	30,500	-	24,400	23,000	25,000	88,000	90,900	55,300	-	63,000	60,000
Potassium	0.1	mg/L	-	1,960	1,970	-	1,520	1,500	1,500	2,640	2,620	2,240	-	2,500	2,400
Calcium	0.1	mg/L	-	66,000	64,600	-	53,100	58,000	59,000	40,000	35,100	27,800	-	41,000	27,000
Magnesium	0.1	mg/L	-	33,600	32,300	-	27,100	29,000	29,000	18,400	16,600	13,200	-	19,000	13,000
Dissolved Phosphorous	0.1	mg/L	-	<0.100	<0.100	-	<0.100	<0.1	<0.100	<0.100	<0.100	<0.100	-	<0.1	<0.100

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

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MAC: Maximum Acceptable Concentration; AO: Aesthetic Objective

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Lab-Dup: Laboratory Initiated Duplicate

Table B-2. Water Analyses - General Chemistry - Former Queens County Regional Landfill

Parameter	RDL	Units	Health Canada	SH-8							SH-9						
				GCDWQ	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Lab-Dup	Jul-17	Jul-18	Jul-18 LD	Jul-19	Jul-19 LD	Jul-20	Jun-21
Anion Sum	1.1	meq/L	-	3.18	2.99	3.06	3.06	3.15	-	7.75	5.83	-	7.23	-	7.08	7.23	
Bicarbonate (as CaCO ₃)	1	mg/L	-	110	120	110	110	110	-	320	240	-	300	-	290	290	
TDS Calculated	1	mg/L	≤500 (AO)	169	151	163	170	170	-	397	299	-	368	-	360	380	
Carbonate (as CaCO ₃)	1	mg/L	-	<1	<1	1	<1.0	1.3	-	<1	<1	-	<1	-	<1.0	<1.0	
Cation Sum	0.1	meq/L	-	3.09	2.92	2.98	3.01	3.10	-	7.01	5.34	-	6.51	-	6.24	6.81	
Hardness (as CaCO ₃)	1	mg/L	-	140	130	130	140	140	-	220	180	-	220	-	200	230	
Ion Balance	-	%	-	1.44	1.18	1.32	0.820	0.800	-	5.01	4.39	-	5.24	-	6.31	2.99	
Langlier Index @ 20C	-	-	-	0.049	0.0240	0.294	-0.0410	0.247	-	-0.013	0.111	-	0.276	-	-0.0730	-0.0910	
Langlier Index @ 4C	-	-	-	-0.201	-0.226	0.0430	-0.292	-0.00300	-	-0.261	-0.138	-	0.0270	-	-0.322	-0.340	
Saturation pH @ 20C	-	-	-	7.85	7.86	7.87	7.87	7.85	-	7.2	7.36	-	7.19	-	7.26	7.21	
Saturation pH @ 4C	-	-	-	8.1	8.11	8.12	8.12	8.10	-	7.44	7.61	-	7.44	-	7.51	7.46	
Total Alkalinity (as CaCO ₃)	5	mg/L	-	110	120	110	110	110	-	320	240	-	300	-	290	290	
Total Ammonia (as N)	0.05	mg/L	-	0.05	0.06	<0.05	<0.050	<0.050	-	4.2	2.3	-	2.8	-	3.8	2.9	
Colour	5	TCU	≤15 (AO)	<5	7	<5	<5.0	<5.0	-	<5	<5	-	12	-	5.1	<5.0	
Dissolved Organic Carbon	0.5	mg/L	-	0.7	1.2	<0.5	<0.5	<0.5	-	2.5	2.3	-	2.3	-	2.0	2.2	
Total Organic Carbon	0.5	mg/L	-	<3	<5.0	<0.50	<0.40	<0.50	-	3.4	2.9	2.8	<5.0	-	2.7	2.5	
Orthophosphate (as P)	0.01	mg/L	-	0.04	0.01	0.03	0.034	0.031	-	<0.01	<0.01	-	<0.01	-	<0.010	<0.010	
pH	-	-	7 - 10.5	7.9	7.88	8.16	7.83	8.09	-	7.18	7.47	-	7.47	-	7.19	7.12	
Reactive Silica (as SiO ₂)	0.5	mg/L	-	7.2	5.1	7.2	7.7	7.5	-	6.4	5.8	-	6.6	-	6.6	6.1	
Sulphate	2	mg/L	≤500 (AO)	6	3	5	6.8	7.0	-	12	8	-	11	-	12	17	
Turbidity	0.1	NTU	1 (OG)	99	27	2.1	11	4.8	-	47	49	-	330	360	150	53	
Chloride	1	mg/L	≤250 (AO)	19	19	17	19	18	-	40	28	-	36	-	36	36	
Conductivity	1	uS/cm	-	300	290	310	310	310	-	700	540	-	670	-	650	680	
Nitrate (as N)	0.05	mg/L	10 (MAC)	3.6	0.49	3.5	3.7	3.4	-	<0.05	0.07	-	<0.05	-	<0.050	<0.050	
Nitrite (as N)	0.01	mg/L	1 (MAC)	<0.01	<0.01	<0.01	<0.010	<0.010	-	<0.01	0.01	-	0.05	-	0.011	<0.010	
Nitrate + Nitrite (as N)	0.05	mg/L	-	3.6	0.49	3.5	3.7	3.4	-	<0.05	0.08	-	<0.05	-	<0.050	<0.050	
Sodium	0.1	mg/L	≤200 (AO)	7,130	7,510	6,570	6,400	6,800	6,600	41,900	25,600	-	32,200	-	35,000	36,000	
Potassium	0.1	mg/L	-	1,370	1,560	1,290	1,300	1,300	1,300	19,600	14,700	-	15,900	-	17,000	18,000	
Calcium	0.1	mg/L	-	30,000	27,600	29,200	30,000	31,000	30,000	55,700	47,600	-	59,200	-	51,000	58,000	
Magnesium	0.1	mg/L	-	15,100	14,200	14,600	15,000	15,000	15,000	19,000	15,800	-	18,100	-	17,000	20,000	
Dissolved Phosphorous	0.1	mg/L	-	<0.100	<0.100	<0.100	<0.1	<0.100	<0.100	<0.100	<0.100	-	<0.100	-	<0.1	<0.100	

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

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Lab-Dup: Laboratory Initiated Duplicate

Table B-2. Water Analyses - General Chemistry - Former Queens County Regional Landfill

Parameter	RDL	Units	Health Canada	SH-10						SH-11						SH-12					
				GCDWQ	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Lab-Dup	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Lab-Dup
Anion Sum	1.1	meq/L	-	14.9	13.1	11.6	11.0	7.36	3.66	3.80	3.45	3.70	3.83	-	0.9	1.49	1.09	1.29	1.21	-	
Bicarbonate (as CaCO ₃)	1	mg/L	-	480	440	400	400	270	130	140	130	130	140	-	15	15	16	12	15	-	
TDS Calculated	1	mg/L	≤500 (AO)	761	677	593	550	380	187	192	175	190	190	-	51	82	62	74	68	-	
Carbonate (as CaCO ₃)	1	mg/L	-	<1	<1	3	<1.0	<1.0	<1	1	1	<1.0	1.2	-	<1	<1	<1	<1.0	<1.0	-	
Cation Sum	0.1	meq/L	-	13.5	12.2	10.8	9.54	6.93	3.48	3.51	3.30	3.45	3.53	-	0.81	1.27	0.980	1.15	1.06	-	
Hardness (as CaCO ₃)	1	mg/L	-	480	420	400	370	270	150	150	140	150	150	-	22	31	22	25	20	-	
Ion Balance	-	%	-	4.87	3.57	3.53	7.02	3.01	2.52	3.97	2.22	3.50	4.08	-	5.26	7.97	5.31	5.74	6.61	-	
Langlier Index @ 20C	-	-	-	0.483	0.212	1.07	0.369	0.173	0.049	0.219	0.208	-0.0750	0.235	-	-2.96	-2.94	-2.19	-2.80	-2.87	-	
Langlier Index @ 4C	-	-	-	0.236	-0.0350	0.827	0.121	-0.0750	-0.201	-0.0320	-0.0420	-0.325	-0.0150	-	-3.21	-3.19	-2.44	-3.05	-3.12	-	
Saturation pH @ 20C	-	-	-	6.76	6.83	6.89	6.93	7.19	7.78	7.75	7.81	7.77	7.73	-	9.43	9.32	9.42	9.48	9.50	-	
Saturation pH @ 4C	-	-	-	7.01	7.08	7.13	7.17	7.44	8.03	8.00	8.06	8.02	7.98	-	9.68	9.57	9.68	9.74	9.76	-	
Total Alkalinity (as CaCO ₃)	5	mg/L	-	480	440	410	400	270	130	140	130	130	140	-	15	15	16	12	15	-	
Total Ammonia (as N)	0.05	mg/L	-	7.5	7.8	5.2	4.5	2.4	0.06	<0.05	0.06	<0.050	<0.050	-	<0.05	<0.05	<0.05	<0.050	<0.050	0.053	
Colour	5	TCU	≤15 (AO)	<5	12	7	<5.0	<5.0	<5	<5	<5	<5.0	<5.0	-	<5	<5	<5	<5.0	<5.0	-	
Dissolved Organic Carbon	0.5	mg/L	-	6.1	6.4	4.3	3.6	1.7	0.8	0.7	<0.5	<0.5	<0.5	-	0.6	0.7	<0.5	<0.5	<0.5	-	
Total Organic Carbon	0.5	mg/L	-	5.5	5.6	4.2	3.8	1.9	<5	<5.0	<5.0	<5.0	<5.0	-	1.1	0.90	<0.50	0.73	1.0	-	
Orthophosphate (as P)	0.01	mg/L	-	0.01	<0.01	0.03	0.013	0.014	<0.01	<0.01	<0.01	<0.010	<0.010	-	<0.01	<0.01	<0.01	<0.010	<0.010	-	
pH	-	-	7 - 10.5	7.24	7.04	7.96	7.29	7.36	7.83	7.96	8.02	7.70	7.97	-	6.47	6.39	7.24	6.68	6.63	-	
Reactive Silica (as SiO ₂)	0.5	mg/L	-	7.4	7.2	6.7	7.5	6.7	7.6	8.8	7.4	9.1	8.9	-	3	2.8	3.1	3.1	2.9	-	
Sulphate	2	mg/L	≤500 (AO)	59	53	42	39	23	4	4	<2	4.9	4.4	-	3	4	4	5.6	5.1	-	
Turbidity	0.1	NTU	1 (OG)	3.8	1.4	3.4	6.2	9.5	400	410	350	480	680	700	31	98	28	200	45	-	
Chloride	1	mg/L	≤250 (AO)	140	110	91	74	43	33	29	31	32	29	-	18	39	23	32	28	-	
Conductivity	1	uS/cm	-	1,300	1,200	1,100	930	680	340	350	350	360	350	-	92	160	120	140	130	-	
Nitrate (as N)	0.05	mg/L	10 (MAC)	0.71	0.81	0.56	1.8	3.2	0.57	0.68	0.56	0.76	0.73	-	0.33	0.38	0.41	0.36	0.24	-	
Nitrite (as N)	0.01	mg/L	1 (MAC)	0.01	0.02	0.02	0.034	0.028	<0.01	<0.01	<0.01	<0.010	<0.010	-	<0.01	<0.01	<0.01	<0.010	<0.010	-	
Nitrate + Nitrite (as N)	0.05	mg/L	-	0.72	0.82	0.58	1.800	3.2	0.57	0.68	0.56	0.76	0.73	-	0.33	0.38	0.41	0.36	0.24	-	
Sodium	0.1	mg/L	≤200 (AO)	63,100	58,500	45,000	35,000	24,000	11,300	11,300	10,500	11	11,000	-	7,270	13,800	11,400	14,000	14,000	-	
Potassium	0.1	mg/L	-	19,800	22,400	17,000	14,000	9,400	2,570	2,490	2,370	2.4	2,400	-	1,920	2,180	1,700	1,700	1,600	-	
Calcium	0.1	mg/L	-	120,000	107,000	98,900	90,000	66,000	30,500	31,100	29,200	31	32,000	-	4,960	6,880	4,920	5,600	4,400	-	
Magnesium	0.1	mg/L	-	45,000	38,200	37,800	35,000	27,000	16,900	17,000	16,100	17	17,000	-	2,410	3,270	2,350	2,600	2,100	-	
Dissolved Phosphorous	0.1	mg/L	-	<0.100	<0.100	<0.100	<0.1	<0.100	<0.100	<0.100	<0.100	<0.1	<0.100	-	<0.100	<0.100	<0.100	<0.1	<0.100	-	

Notes:

Shaded values exceed GCDWQ

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Table B-2. Water Analyses - General Chemistry - Former Queens County Regional Landfill

Parameter	RDL	Units	Health Canada	SH-13						SH-14					
				GCDWQ	Jul-17	Jul-18	Jul-19	Jul-20	Jul-20 LD	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jul-20 LD
Anion Sum	1.1	meq/L	-	2.59	2.62	2.46	2.63	-	2.58	2.62	2.68	2.29	3.04	-	2.81
Bicarbonate (as CaCO ₃)	1	mg/L	-	93	95	92	94	-	92	99	93	85	110	-	98
TDS Calculated	1	mg/L	≤500 (AO)	142	144	133	140	-	140	141	148	124	160	-	150
Carbonate (as CaCO ₃)	1	mg/L	-	<1	<1	<1	<1.0	-	<1.0	<1	<1	<1	<1.0	-	<1.0
Cation Sum	0.1	meq/L	-	2.52	2.61	2.40	2.43	-	2.41	2.58	2.53	2.20	2.95	-	2.79
Hardness (as CaCO ₃)	1	mg/L	-	120	120	110	110	-	110	120	110	99	130	-	130
Ion Balance	-	%	-	1.37	0.190	1.23	3.95	-	3.41	0.77	2.88	2.00	1.50	-	0.360
Langlier Index @ 20C	-	-	-	-0.001	0.0230	-0.0310	-0.238	-	-0.0850	-0.561	-0.785	-0.395	-0.531	-	-0.663
Langlier Index @ 4C	-	-	-	-0.251	-0.228	-0.281	-0.488	-	-0.335	-0.812	-1.04	-0.646	-0.782	-	-0.914
Saturation pH @ 20C	-	-	-	8.01	7.99	8.03	8.02	-	8.03	7.98	8.03	8.11	7.88	-	7.95
Saturation pH @ 4C	-	-	-	8.26	8.24	8.29	8.27	-	8.28	8.23	8.28	8.36	8.13	-	8.20
Total Alkalinity (as CaCO ₃)	5	mg/L	-	94	96	93	95	-	92	99	93	86	110	-	98
Total Ammonia (as N)	0.05	mg/L	-	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.05	<0.05	<0.05	<0.050	-	<0.050
Colour	5	TCU	≤15 (AO)	<5	<5	5	<5.0	-	<5.0	<5	7	<5	<5.0	-	<5.0
Dissolved Organic Carbon	0.5	mg/L	-	0.5	0.6	<0.5	<0.5	-	0.7	0.5	1.0	<0.5	<0.5	<0.5	0.5
Total Organic Carbon	0.5	mg/L	-	<0.5	<5.0	<5.0	0.41	-	0.51	<5	<5.0	<5.0	2.1	-	0.59
Orthophosphate (as P)	0.01	mg/L	-	0.09	0.09	0.08	0.079	-	0.067	0.08	0.16	0.09	0.091	-	0.069
pH	-	-	7 - 10.5	8	8.01	8.00	7.78	-	7.95	7.41	7.25	7.72	7.35	-	7.29
Reactive Silica (as SiO ₂)	0.5	mg/L	-	6.3	6.2	6.2	6.5	-	6.5	5.6	5.3	5.3	5.7	-	5.9
Sulphate	2	mg/L	≤500 (AO)	3	3	<2	3.4	-	3.6	3	3	<2	6.4	-	7.4
Turbidity	0.1	NTU	1 (OG)	12	49	64	24	-	44	140	67	130	650	-	47
Chloride	1	mg/L	≤250 (AO)	9	9	9	10	-	8.7	9	11	8	13	-	11
Conductivity	1	uS/cm	-	240	260	250	260	-	240	250	250	230	300	-	280
Nitrate (as N)	0.05	mg/L	10 (MAC)	5.5	5.3	4.9	5.3	-	5.7	4.4	6.2	4.9	4.9	-	5.0
Nitrite (as N)	0.01	mg/L	1 (MAC)	<0.01	<0.01	0.01	<0.010	-	<0.010	<0.01	<0.01	<0.01	<0.010	-	<0.010
Nitrate + Nitrite (as N)	0.05	mg/L	-	5.5	5.3	4.9	5.3	-	5.7	4.4	6.2	4.9	4.9	-	5.0
Sodium	0.1	mg/L	≤200 (AO)	3.880	4.080	3.690	3.6	-	3.700	4.170	4.620	3.920	4.8	-	4.800
Potassium	0.1	mg/L	-	1.280	1.240	1.180	1.2	-	1.200	1.610	4.340	2.090	2	-	1.900
Calcium	0.1	mg/L	-	24.400	25.300	22.900	23	-	23.000	24.700	23.100	20.400	28	-	27.000
Magnesium	0.1	mg/L	-	13.400	13.900	12.900	13	-	13.000	13.700	13.000	11.700	16	-	15.000
Dissolved Phosphorous	0.1	mg/L	-	0.11	0.105	0.132	0.12	-	<0.100	<0.100	0.176	0.137	0.13	-	<0.100

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration; AO: Aesthetic Objective

OG: Operational Guideline not used for comparison purposes as they are used to assess the treatability of drinking water

Lab-Dup: Laboratory Initiated Duplicate

Table B-2. Water Analyses - General Chemistry - Former Queens County Regional Landfill

Parameter	RDL	Units	Health Canada	SH-15								SH-16					
				GCDWQ	Jul-17	Jul-18	Jul-19	Jul-19 LD	Jul-20	Jul-20 LD	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	
Anion Sum	1.1	meq/L	-	2.87	2.29	2.93	-	4.35	-	2.61	3.02	3.06	2.75	2.73	2.86		
Bicarbonate (as CaCO ₃)	1	mg/L	-	110	91	110	-	130	-	90	110	110	98	93	100		
TDS Calculated	1	mg/L	≤500 (AO)	145	117	142	-	220	-	140	161	163	145	140	150		
Carbonate (as CaCO ₃)	1	mg/L	-	<1	<1	<1	-	<1.0	-	<1.0	<1	<1	<1	<1.0	<1.0		
Cation Sum	0.1	meq/L	-	2.77	2.28	2.51	-	4.09	-	2.67	2.9	3.05	2.61	2.58	2.77		
Hardness (as CaCO ₃)	1	mg/L	-	130	100	110	-	180	-	120	130	140	120	120	120		
Ion Balance	-	%	-	1.77	0.220	7.72	-	3.08	-	1.14	2.03	0.160	2.61	2.82	1.60		
Langlier Index @ 20C	-	-	-	0.006	-0.207	-0.0210	-	0.00200	-	-0.469	0.002	-0.0870	0.0330	-0.157	0.0670		
Langlier Index @ 4C	-	-	-	-0.245	-0.458	-0.271	-	-0.248	-	-0.719	-0.248	-0.338	-0.218	-0.407	-0.183		
Saturation pH @ 20C	-	-	-	7.88	8.06	7.93	-	7.67	-	8.01	7.89	7.84	7.97	8.00	7.94		
Saturation pH @ 4C	-	-	-	8.13	8.31	8.18	-	7.92	-	8.26	8.14	8.09	8.22	8.25	8.19		
Total Alkalinity (as CaCO ₃)	5	mg/L	-	110	91	110	97	140	130	91	110	110	99	93	100		
Total Ammonia (as N)	0.05	mg/L	-	0.18	<0.05	<0.05	-	<0.050	-	<0.050	<0.05	<0.05	0.07	<0.050	<0.050		
Colour	5	TCU	≤15 (AO)	<5	5	<5	<5	≤5.0	<5.0	<5.0	<5	<5	<5	5	≤5.0	<5.0	
Dissolved Organic Carbon	0.5	mg/L	-	0.6	0.7	<0.5	-	<0.5	-	0.5	0.8	0.8	<0.5	<0.5	0.6		
Total Organic Carbon	0.5	mg/L	-	≤5	≤5.0	<5.0	-	0.65	-	<5.0	<5	<5.0	<5.0	<5.0	<5.0		
Orthophosphate (as P)	0.01	mg/L	-	0.07	0.09	0.09	0.08	0.073	0.070	0.076	0.08	0.08	0.07	0.090	0.071		
pH	-	-	7 - 10.5	7.89	7.85	7.91	-	7.67	-	7.54	7.89	7.76	8.00	7.84	8.00		
Reactive Silica (as SiO ₂)	0.5	mg/L	-	6.8	6.1	6.3	6.6	7.5	7.4	6.7	5.9	5.8	5.8	5.2	5.7		
Sulphate	2	mg/L	≤500 (AO)	2	2	<2	<2	3.6	3.3	<2.0	6	4	4	5.3	4.7		
Turbidity	0.1	NTU	1 (OG)	140	25	240	-	55	-	180	530	180	350	330	200		
Chloride	1	mg/L	≤250 (AO)	17	14	23	23	53	53	27	15	14	15	20	18		
Conductivity	1	uS/cm	-	260	230	260	-	440	-	270	280	300	280	270	280		
Nitrate (as N)	0.05	mg/L	10 (MAC)	0.73	0.14	0.36	-	0.95	-	0.35	4.5	4.2	3.5	2.4	2.7		
Nitrite (as N)	0.01	mg/L	1 (MAC)	<0.01	<0.01	<0.01	0.01	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01	<0.010	<0.010		
Nitrate + Nitrite (as N)	0.05	mg/L	-	0.73	0.14	0.36	0.36	0.95	0.96	0.35	4.5	4.2	3.5	2.4	2.7		
Sodium	0.1	mg/L	≤200 (AO)	4.510	4.240	4.710	-	8.6	-	6.300	5.020	5.050	5.080	5.4	5.800		
Potassium	0.1	mg/L	-	1.170	1.110	1.120	-	1.3	-	1.200	1.180	1.170	1.050	1.1	1.200		
Calcium	0.1	mg/L	-	26,800	21,700	23,900	-	39	-	25,000	28,400	29,900	25,400	25	27,000		
Magnesium	0.1	mg/L	-	14,400	12,000	13,200	-	21	-	14,000	15,000	15,900	13,300	13	14,000		
Dissolved Phosphorous	0.1	mg/L	-	<0.100	0.124	0.125	-	0.1	-	<0.100	<0.100	<0.100	0.138	0.12	<0.100		

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration; AO: Aesthetic Objective

OG: Operational Guideline not used for comparison purposes as they are used to assess the treatability of drinking water

Lab-Dup: Laboratory Initiated Duplicate

Table B-2. Water Analyses - General Chemistry - Former Queens County Regional Landfill

Parameter	RDL	Units	Health Canada	SH-17								SH-19					
				GCDWQ	Jul-17	Jul-18	Jul-19	Jul-19 LD	Jul-20	Jun-21	Lab-Dup	Jul-17	Jul-18	Jul-19	Jul-19 LD	Jul-20	Jun-21
Anion Sum	1.1	meq/L	-	2.87	2.68	3.19	-	3.30	2.98	-	6.84	6.57	6.18	-	6.72	6.23	
Bicarbonate (as CaCO3)	1	mg/L	-	100	94	110	-	110	99	-	210	200	190	-	200	190	
TDS Calculated	1	mg/L	≤500 (AO)	147	137	159	-	170	150	-	340	333	310	-	340	320	
Carbonate (as CaCO3)	1	mg/L	-	<1	<1	<1	-	<1.0	<1.0	-	<1	<1	<1	-	<1.0	<1.0	
Cation Sum	0.1	meq/L	-	2.68	2.54	2.86	-	3.10	2.81	-	6.16	6.28	5.73	-	6.38	6.00	
Hardness (as CaCO3)	1	mg/L	-	120	110	120	-	130	120	-	260	260	240	-	270	250	
Ion Balance	-	%	-	3.42	2.68	5.45	-	3.13	2.94	-	5.23	2.26	3.78	-	2.6	1.88	
Langlier Index @ 20C	-	-	-	-0.233	-0.379	-0.0510	-	-0.274	-0.391	-	0.262	0.0240	0.219	-	0.00800	-0.0250	
Langlier Index @ 4C	-	-	-	-0.484	-0.630	-0.302	-	-0.524	-0.641	-	0.013	-0.225	-0.0300	-	-0.241	-0.274	
Saturation pH @ 20C	-	-	-	7.94	8.02	7.92	-	7.89	7.99	-	7.35	7.38	7.41	-	7.35	7.39	
Saturation pH @ 4C	-	-	-	8.19	8.27	8.17	-	8.14	8.24	-	7.6	7.62	7.66	-	7.60	7.64	
Total Alkalinity (as CaCO3)	5	mg/L	-	100	94	110	-	110	100	99	210	200	190	-	200	190	
Total Ammonia (as N)	0.05	mg/L	-	<0.05	0.07	<0.05	<0.05	<0.05	<0.050	-	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	
Colour	5	TCU	≤15 (AO)	<5	<5	<5	-	<5.0	<5.0	<5.0	<5	8	6	-	<5.0	<5.0	
Dissolved Organic Carbon	0.5	mg/L	-	1.1	0.9	0.5	-	0.6	0.8	-	1.2	1.1	0.8	-	0.9	0.8	
Total Organic Carbon	0.5	mg/L	-	<30	<5.0	<50	-	0.82	<5.0	-	5	<5.0	0.87	-	1.1	0.92	
Orthophosphate (as P)	0.01	mg/L	-	0.05	0.01	0.04	-	0.046	0.042	0.043	<0.01	<0.01	<0.01	-	<0.010	<0.010	
pH	-	-	7 - 10.5	7.71	7.64	7.87	-	7.61	7.59	7.44	7.61	7.40	7.63	-	7.36	7.37	
Reactive Silica (as SiO2)	0.5	mg/L	-	4.6	4.3	4.7	-	4.5	5.0	5.1	6.4	6.3	6.6	-	6.3	6.6	
Sulphate	2	mg/L	≤500 (AO)	4	3	3	-	4.2	4.0	3.6	12	10	9	-	12	11	
Turbidity	0.1	NTU	1 (OG)	190	140	840	-	140	91	-	220	80	87	-	69	62	
Chloride	1	mg/L	≤250 (AO)	19	22	30	-	33	30	30	85	85	76	-	84	75	
Conductivity	1	uS/cm	-	260	340	310	-	330	270	280	630	640	620	-	680	610	
Nitrate (as N)	0.05	mg/L	10 (MAC)	2.4	1.7	1.4	-	1.0	0.79	-	0.31	0.19	0.22	-	0.27	0.18	
Nitrite (as N)	0.01	mg/L	1 (MAC)	<0.01	<0.01	<0.01	-	<0.010	<0.010	<0.010	<0.01	<0.01	0.01	-	<0.010	0.016	
Nitrate + Nitrite (as N)	0.05	mg/L	-	2.4	1.7	1.4	-	1.0	0.79	0.81	0.31	0.19	0.24	-	0.27	0.19	
Sodium	0.1	mg/L	≤200 (AO)	5,060	6,210	8,080	-	9,700	10,000	-	20,900	22,200	19,600	-	23,000	21,000	
Potassium	0.1	mg/L	-	1,580	1,800	1,550	-	1,600	1,500	-	1,810	1,780	1,690	-	1,700	1,700	
Calcium	0.1	mg/L	-	25,800	23,300	26,100	-	28,000	24,000	-	57,800	57,400	53,400	-	59,000	56,000	
Magnesium	0.1	mg/L	-	13,800	12,800	14,200	-	15,000	14,000	-	28,200	28,900	26,200	-	29,000	27,000	
Dissolved Phosphorous	0.1	mg/L	-	<0.100	<0.100	<0.100	-	<0.1	<0.100	-	<0.100	<0.100	<0.100	-	<0.1	<0.100	

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-' not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration; AO: Aesthetic Objective

OG: Operational Guideline not used for comparison purposes as they are used to assess the treatability of drinking water

Lab-Dup: Laboratory Initiated Duplicate

Table B-3. Water Analyses - Other Inorganic Parameters - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	CCME Water Quality Guidelines for the Protection of Freshwater Aquatic Life		CCME Water Quality Guidelines for the Protection of Agriculture		SH-1				SH-2				SH-3											
				GCDWQ	LTE	STE	Irrigation	Livestock	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jul-20 LD	Jun-21	Jul-17	Jul-18	Jul-18 LD	Jul-19	Jul-19 LD	Jul-20	Jul-20 LD	Jun-21
Total COD (as O ₂)	mg/L	5	-	-	-	-	-	-	32	23	28	31	<20	<5	<5	<20	-	<20	<5	27	-	<20	-	<20	-	21	
Total Suspended Solids	mg/L	1	-	Variable	Variable	-	-	-	400	100	620	720	310	42	18	53	130	-	98	25	84	94	56	49	27	37	42
Total Phosphorous	mg/L	0.02	-	Variable	-	-	-	-	3	0.90	1.7	2.4	0.95	1	0.07	1.9	2.5	-	0.83	0.11	0.12	-	0.10	-	0.066	-	0.075
Total Kjeldahl Nitrogen	mg/L	0.1	-	-	-	-	-	-	<0.10	0.6	0.15	0.18	<0.10	<0.10	0.2	0.18	0.25	-	0.15	1.7	1.0	0.9	2.3	-	1.2	-	5.4
Phenolics	mg/L	0.001	-	0.004	-	-	-	0.002	<0.001	0.003	<0.0010	0.0012	<0.0010	<0.0026	<0.0027	<0.0028	<0.0029	<0.0030	<0.0010	<0.001	-	<0.0010	-	<0.0010	-	<0.0010	

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-': not available

<#: parameter not detected above the RDL

COD: Chemical Oxygen Demand

Lab-Dup: Laboratory Initiated Duplicate

Table B-3. Water Analyses - Other Inorganic Parameters - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	CCME Water Quality Guidelines for the Protection of Freshwater Aquatic Life		CCME Water Quality Guidelines for the Protection of Agriculture						SH-4				SH-5				SH-6				SH-8							
				GCDWQ	LTE	STE	Irrigation	Livestock	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Lab-Dup	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21		
Total COD (as O ₂)	mg/L	5	-	-	-	-	-	-	23	30	<20	<20	<20	-	21	23	<20	23	<5	24	<20	<20	<5	<20	<20	-	<20	<20	<20		
Total Suspended Solids	mg/L	1	-	Variable	Variable	-	-	-	250	130	160	130	92	94	47	51	72	66	94	47	20	24	38	33	110	22	5	-	11	-	4.4
Total Phosphorous	mg/L	0.02	-	Variable	-	-	-	-	0.15	0.34	0.43	0.21	0.091	-	0.44	0.08	0.10	0.12	0.13	0.13	0.09	0.07	0.16	0.089	0.17	0.40	0.04	-	0.049	-	0.045
Total Kjeldahl Nitrogen	mg/L	0.1	-	-	-	-	-	-	0.17	0.3	0.15	0.19	0.11	-	0.28	0.3	0.21	0.22	0.30	0.13	0.2	0.16	0.24	0.12	<0.10	0.2	0.24	0.27	0.13	0.20	<0.10
Phenolics	mg/L	0.001	-	0.004	-	-	-	0.002	<0.001	<0.001	<0.0010	<0.0010	<0.0010	-	<0.001	0.001	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	-	<0.0010	-	<0.0010

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-': not available

<#: parameter not detected above the RDL

COD: Chemical Oxygen Demand

Lab-Dup: Laboratory Initiated Duplicate

Table B-3. Water Analyses - Other Inorganic Parameters - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	CCME Water Quality Guidelines for the Protection of Freshwater Aquatic Life		CCME Water Quality Guidelines for the Protection of Agriculture		SH-9						SH-10						SH-11						
				GCDWQ	LTE	STE	Irrigation	Livestock	Jul-17	Jul-18	Jul-19	Jul-20	Jul-20 LD	Jun-21	Jul-17	Jul-18	Jul-19	Jul-19 LD	Jul-20	Jun-21	Lab-Dup	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21
Total COD (as O ₂)	mg/L	5	-	-	-	-	-	-	25	23	40	<20	-	<20	32	35	<20	24	<20	<20	-	<5	23	<20	<20	<20
Total Suspended Solids	mg/L	1	-	Variable	Variable	-	-	-	42	39	130	130	-	23	6	7	14	-	17	11	-	150	370	180	410	410
Total Phosphorous	mg/L	0.02	-	Variable	-	-	-	-	1	0.56	6.9	1.2	-	0.19	0.09	0.05	0.12	0.12	0.082	0.062	-	0.12	0.21	0.11	0.17	0.18
Total Kjeldahl Nitrogen	mg/L	0.1	-	-	-	-	-	-	4.5	2.8	3.3	4.3	-	3.4	7.4	7.6	5.5	-	4.8	2.4	2.4	0.12	0.4	0.12	0.18	<0.10
Phenolics	mg/L	0.001	-	0.004	-	-	-	0.002	0.002	0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.002	0.001	<0.0010	-	<0.0010	<0.0010	-	<0.001	<0.001	<0.0010	<0.0010	<0.0010

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-': not available

<#: parameter not detected above the RDL

COD: Chemical Oxygen Demand

Lab-Dup: Laboratory Initiated Duplicate

Table B-3. Water Analyses - Other Inorganic Parameters - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	CCME Water Quality Guidelines for the Protection of Freshwater Aquatic Life		CCME Water Quality Guidelines for the Protection of Agriculture		SH-12						SH-13						SH-14						
				GCDWQ	LTE	STE	Irrigation	Livestock	Jul-17	Jul-18	Jul-18 LD	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-18 LD	Jul-19	Jul-20	Jul-20 LD	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21
Total COD (as O ₂)	mg/L	5	-	-	-	-	-	-	<5	<5	<5	<20	<20	<20	<5	<5	-	<20	<20	-	<20	<5	23	<20	26	<20
Total Suspended Solids	mg/L	1	-	Variable	Variable	-	-	-	28	24	-	13	97	66	22	67	-	62	49	-	48	170	7	140	570	61
Total Phosphorous	mg/L	0.02	-	Variable	-	-	-	0.08	0.06	-	0.04	0.11	0.062	0.13	0.17	-	0.14	0.11	-	0.11	0.35	0.51	0.34	1.0	0.15	
Total Kjeldahl Nitrogen	mg/L	0.1	-	-	-	-	-	<0.10	0.2	-	0.11	0.14	<0.10	<0.20	0.2	0.2	<0.20	<0.20	<0.20	<0.20	<0.10	0.5	<0.20	<0.20	<0.20	
Phenolics	mg/L	0.001	-	0.004	-	-	-	0.002	<0.001	<0.001	-	<0.0010	<0.0010	<0.0010	<0.001	<0.001	-	<0.0010	<0.0010	-	<0.0010	<0.001	<0.001	<0.0010	<0.0010	

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-': not available

<#: parameter not detected above the RDL

COD: Chemical Oxygen Demand

Lab-Dup: Laboratory Initiated Duplicate

Table B-3. Water Analyses - Other Inorganic Parameters - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	CCME Water Quality Guidelines for the Protection of Freshwater Aquatic Life		CCME Water Quality Guidelines for the Protection of Agriculture		SH-15					SH-16					SH-17					SH-19					
				GCDWQ	LTE	STE	Irrigation	Livestock	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21
Total COD (as O ₂)	mg/L	5	-	-	-	-	-	-	<5	<5	<20	<20	<20	<5	<5	21	<20	<20	<5	<5	<20	<20	8	<5	<20	<20	<20	
Total Suspended Solids	mg/L	1	-	Variable	Variable	-	-	-	150	60	67	110	210	430	210	320	370	210	640	200	980	180	190	110	59	28	31	14
Total Phosphorous	mg/L	0.02	-	Variable	-	-	-	-	0.23	0.19	0.25	0.19	0.29	0.34	0.58	0.26	0.25	0.16	0.75	0.15	0.86	0.22	0.12	0.35	0.11	0.07	0.071	0.11
Total Kjeldahl Nitrogen	mg/L	0.1	-	-	-	-	-	-	0.34	0.3	0.15	0.19	<0.10	<0.10	0.3	0.14	0.17	<0.10	<0.10	0.2	0.20	0.17	<0.10	<0.10	0.1	0.12	0.16	<0.10
Phenolics	mg/L	0.001	-	0.004	-	-	-	0.002	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-': not available

<#: parameter not detected above the RDL

COD: Chemical Oxygen Demand

Lab-Dup: Laboratory Initiated Duplicate

Table B-4. Water Analyses - VOCs and PCBs - Former Queens County Regional Landfill

Parameter	Units	RDL	Health Canada	SH-5						SH-10					
				GCDWQ		Jul-17	Jul-18	Jul-19	Jul-19 LD	Jul-20	Jun-21	Jul-17	Jul-18	Jul-19	Jul-20
1,2-Dichlorobenzene	µg/L	0.5	200 (MAC) / ≤3 (AO)	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	1	-	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
1,4-Dichlorobenzene	µg/L	1	5 (MAC) / ≤1 (AO)	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
Chlorobenzene	µg/L	1	80 (MAC) / ≤30 (AO)	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
1,1,1-Trichloroethane	µg/L	1	-	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
1,1,2,2-Tetrachloroethane	µg/L	1	-	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
1,1,2-Trichloroethane	µg/L	1	-	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
1,1-Dichloroethane	µg/L	2	-	<2	<2	<2	<2	<2.0	<2.0	<2	<2	<2	<2	<2.0	<2.0
1,1-Dichloroethene (1,1-Dichloroethylene)	µg/L	2	14 (MAC)	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
1,2-Dichloroethane	µg/L	1	5 (MAC)	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
1,2-Dichloropropane	µg/L	1	-	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
Acetone	µg/L	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	µg/L	1	5 (MAC)	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
Bromodichloromethane	µg/L	1	-	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
Bromoform	µg/L	1	-	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
Bromomethane (Methyl Bromide)	µg/L	8	-	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
Carbon Tetrachloride	µg/L	1	2 (MAC)	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
Chloroethane	µg/L	8	-	<8	<8	<8	<8	<8.0	<8.0	<8	<8	<8	<8	<8.0	<8.0
Chloroform	µg/L	1	-	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
Chloromethane	µg/L	8	-	<8	<8	<8	<8	<8.0	<8.0	<8	<8	<8	<8	<8.0	<8.0
cis-1,2-Dichloroethylene	µg/L	2	-	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
cis-1,3-Dichloropropene	µg/L	2	-	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
Dibromochloromethane	µg/L	1	-	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
Ethylbenzene	µg/L	1	140 (MAC) / 1.6 (AO)	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
Ethylene Dibromide (1,2-Dibromoethane)	µg/L	1	-	<0.2	<0.2	<0.2	<0.2	<0.20	-	<0.2	<0.2	<0.2	<0.2	<0.20	-
Methylene chloride (Dichloromethane)	µg/L	3	50 (MAC)	<3	<3	<3	<3	<3.0	<3.0	<3	<3	<3	<3	<3.0	<3.0
o-Xylene	µg/L	1	90 (MAC) / 20 (AO)	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
mp-Xylenes	µg/L	2	90 (MAC) / 20 (AO)	<2	<2	<2	<2	<2.0	<2.0	<2	<2	<2	<2	<2.0	<2.0
Styrene	µg/L	1	-	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
Tetrachloroethylene	µg/L	1	30 (MAC)	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
Toluene	µg/L	1	60 (MAC) / 24 (AO)	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
trans-1,2-Dichloroethylene	µg/L	2	-	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
trans-1,3-Dichloropropene	µg/L	1	-	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
Trichloroethylene	µg/L	1	5 (MAC)	<1	<1	<1	<1	<1.0	<1.0	<1	<1	<1	<1	<1.0	<1.0
Trichlorofluoromethane	µg/L	8	-	<8	<8	<8	<8	<8.0	<8.0	<8	<8	<8	<8	<8.0	<8.0
Vinyl Chloride	µg/L	1	2 (MAC)	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.50	<0.50
2-Hexanone	µg/L	10	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/L	0.5	-	-	-	-	-	-	-	-	-	-	-	<0.50	-
Polychlorinated Biphenyls (PCBs)	µg/L	0.05	-	<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Notes:

Shaded values exceed GCDWQ

RDL: Reportable Detection Limit; '-': not available

<#: parameter not detected above the RDL

MAC: Maximum Acceptable Concentration; AO: Aesthetic Objective

Table B-5. Water Analyses - Dioxins and Furans - Former Queens County Regional Landfill

Parameter	Units	SH-5					SH-10					
		Jul-17	Jul-18	Jul-19	Jul-20	Jun-21	Jul-01	Jul-17	Jul-18	Jul-19	Jul-20	Jun-21
2,3,7,8-Tetrachlorodibenzo-p-dioxin	pg/L	<1.20	<1.16	<2.48	<0.888	<0.900	<0.99	<1.17	<1.20	<1.97	<1.27	<1.05
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	pg/L	<1.16	<1.27	<2.09	<0.826	<1.05	<0.89	<1.13	<1.04	<1.73	<0.796	<1.11
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	pg/L	<1.37	<1.47	<2.04	<1.27	<0.872	<1	<1.07	<1.34	<1.96	<1.27	<1.13
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	pg/L	<1.47	<1.20	<1.67	<1.08	<0.766	<0.72	<1.15	<1.10	<1.61	<1.07	<1.03
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	pg/L	<1.30	<1.27	<1.81	<1.09	<0.813	<0.83	<1.02	<1.16	<1.74	<1.09	<1.04
1,2,3,4,6,7,8,-Heptachlorodibenzo-p-dioxin	pg/L	<1.18	<1.21	<2.13	<1.02	3.18	2.8	<1.21	<1.15	<1.92	<0.894	<1.12
Octachlorodibenzo-p-dioxin	pg/L	1.90	2.81	<2.63	<1.41	7.76	11	1.58	3.01	<2.37	<1.42	4.19
Total Tetrachlorodibenzo-p-dioxins	pg/L	<1.20	<1.16	<2.48	<0.888	<0.900	<0.99	<1.17	<1.20	<1.97	<1.27	<1.05
Total Pentachlorodibenzo-p-dioxins	pg/L	<1.16	<1.27	<2.09	<0.826	<1.05	<0.89	<1.13	<1.04	<1.73	<0.796	<1.11
Total Hexachlorodibenzo-p-dioxins	pg/L	<1.38	<1.31	<1.83	<1.14	<0.815	<0.84	<1.08	<1.19	<1.76	<1.14	<1.07
Total Heptachlorodibenzo-p-dioxins	pg/L	<1.18	<1.21	<2.13	<1.02	3.18	2.8	<1.21	<1.15	<1.92	<0.894	<1.11
2,3,7,8-Tetrachlorodibenzo-p-furan	pg/L	<1.37	<1.17	<1.95	<0.887	<0.616	<1.4	<1.32	<0.596	<1.47	<0.978	<1.02
1,2,3,7,8-Pentachlorodibenzo-p-furan	pg/L	<1.15	<1.37	<2.12	<0.794	<1.21	<0.82	<1.26	<1.23	<1.82	<1.27	<1.36
2,3,4,7,8-Pentachlorodibenzo-p-furan	pg/L	<1.16	<1.38	<2.17	<0.781	<0.937	<0.83	<1.27	<1.24	<1.86	<1.25	<1.05
1,2,3,4,7,8-Hexachlorodibenzo-p-furan	pg/L	<0.654	<1.17	<1.73	<1.01	<0.626	<0.77	<0.348	<0.745	<1.81	<1.09	<0.702
1,2,3,6,7,8-Hexachlorodibenzo-p-furan	pg/L	<0.653	<0.997	<1.44	<0.902	<0.587	0.77	<0.348	<0.635	<1.51	<0.981	<0.656
2,3,4,6,7,8-Hexachlorodibenzo-p-furan	pg/L	<0.684	<1.25	<1.77	<1.00	<0.615	<0.87	<0.365	<0.793	<1.85	<1.09	<0.678
1,2,3,7,8,9-Hexachlorodibenzo-p-furan	pg/L	<0.708	<1.47	<2.07	<1.12	<0.647	<0.89	<0.377	<0.937	<2.16	<1.22	<0.731
1,2,3,4,6,7,8-Heptachlorodibenzo-p-furan	pg/L	<0.728	<0.957	<1.61	<1.05	<0.787	<1.2	<0.579	<0.975	<1.34	<0.770	<1.03
1,2,3,4,7,8,9-Heptachlorodibenzo-p-furan	pg/L	<0.844	<1.54	<2.06	<1.34	<1.08	<1.4	<0.671	<1.57	<1.70	<0.985	<1.41
Octachlorodibenzo-p-furan	pg/L	<1.30	1.50	<2.69	<1.04	<0.913	3.4	<0.437	<1.40	<2.37	<0.916	<1.02
Total Tetrachlorodibenzo-p-furans	pg/L	<1.37	<1.17	<1.95	<0.887	<0.616	<1.4	<1.32	<0.596	<1.47	<0.978	<1.02
Total Pentachlorodibenzo-p-furans	pg/L	<1.15	<1.37	<2.15	<0.787	<1.06	<0.83	<1.27	<1.23	<1.84	<1.26	<1.19
Total Hexachlorodibenzo-p-furans	pg/L	<0.674	<1.20	<1.72	<1.00	<0.618	0.94	<0.359	<0.762	<1.80	<1.09	<0.690
Total Heptachlorodibenzo-p-furans	pg/L	<0.782	<1.18	<1.81	<1.17	<0.910	1.4	<0.622	<1.20	<1.50	<0.865	<1.20
Total PCDDs	pg/L	-	-	-	-	-	-	-	-	-	-	-
Total PCDFs	pg/L	-	-	-	-	-	-	-	-	-	-	-

Notes:

'-' = not available

RDL: Reportable Detection Limit

<#: parameter not detected above the RDL

Appendix C ANNUAL TREND GRAPHS



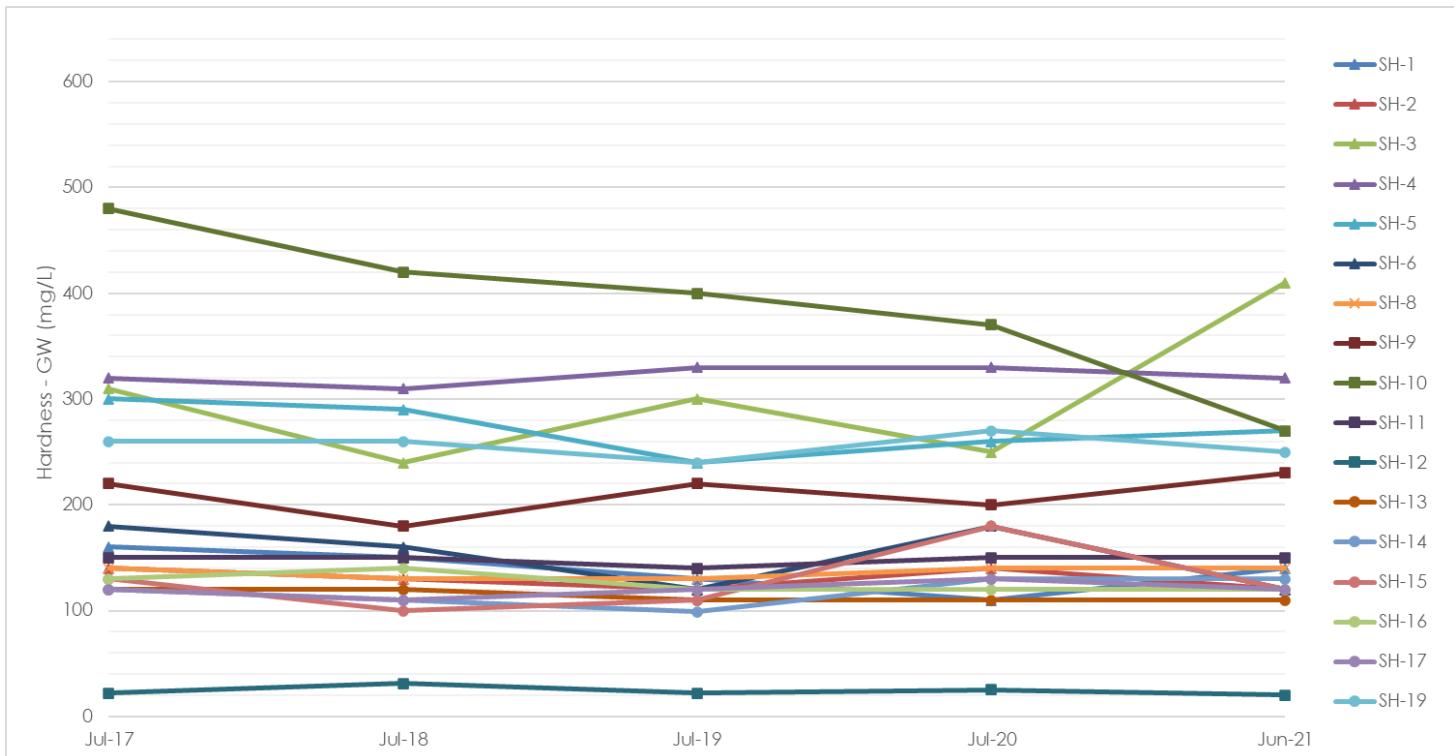


Figure C. 1 Five-year Historical Trend (2017-2021) - Groundwater Hardness - QCRL

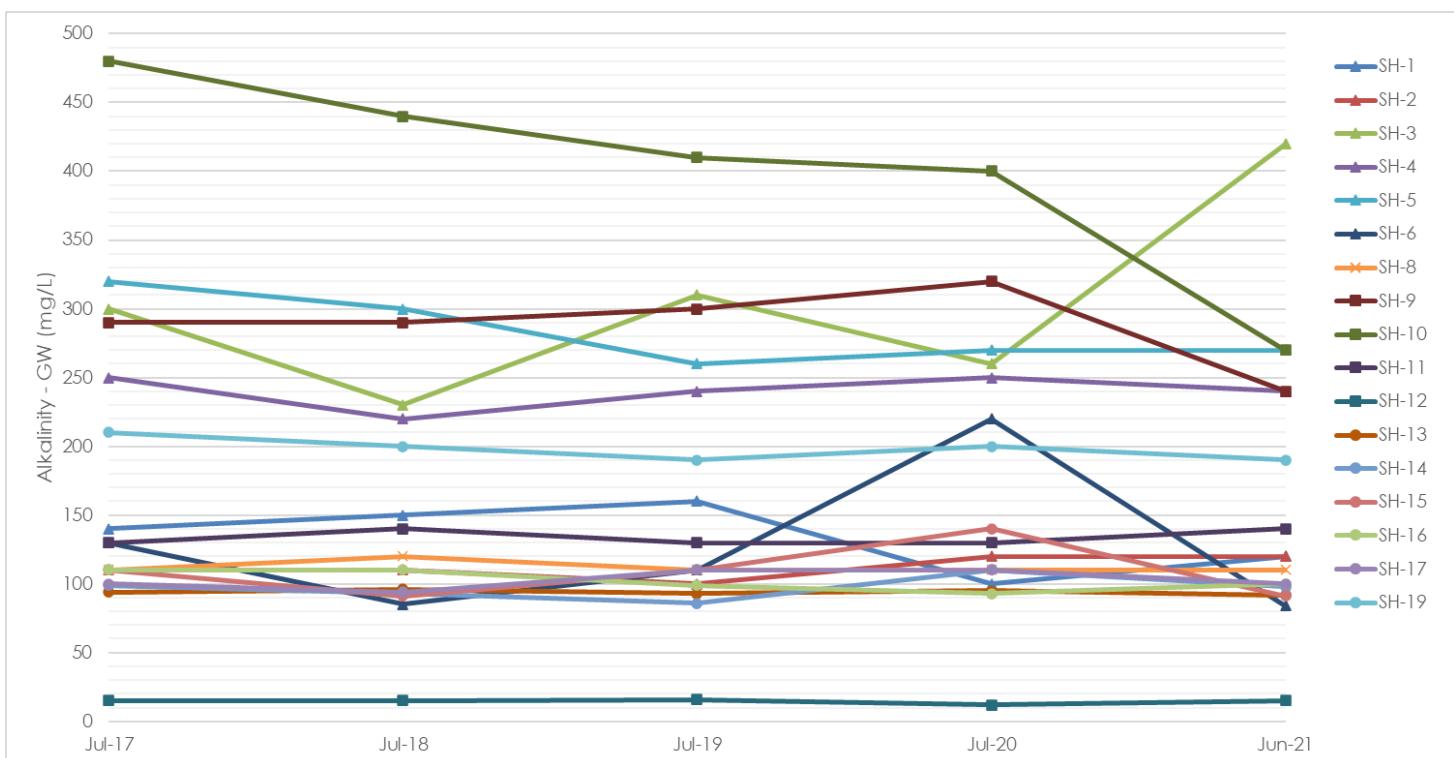


Figure C. 2 Five-year Historical Trend (2017-2021) - Groundwater Alkalinity – QCRL

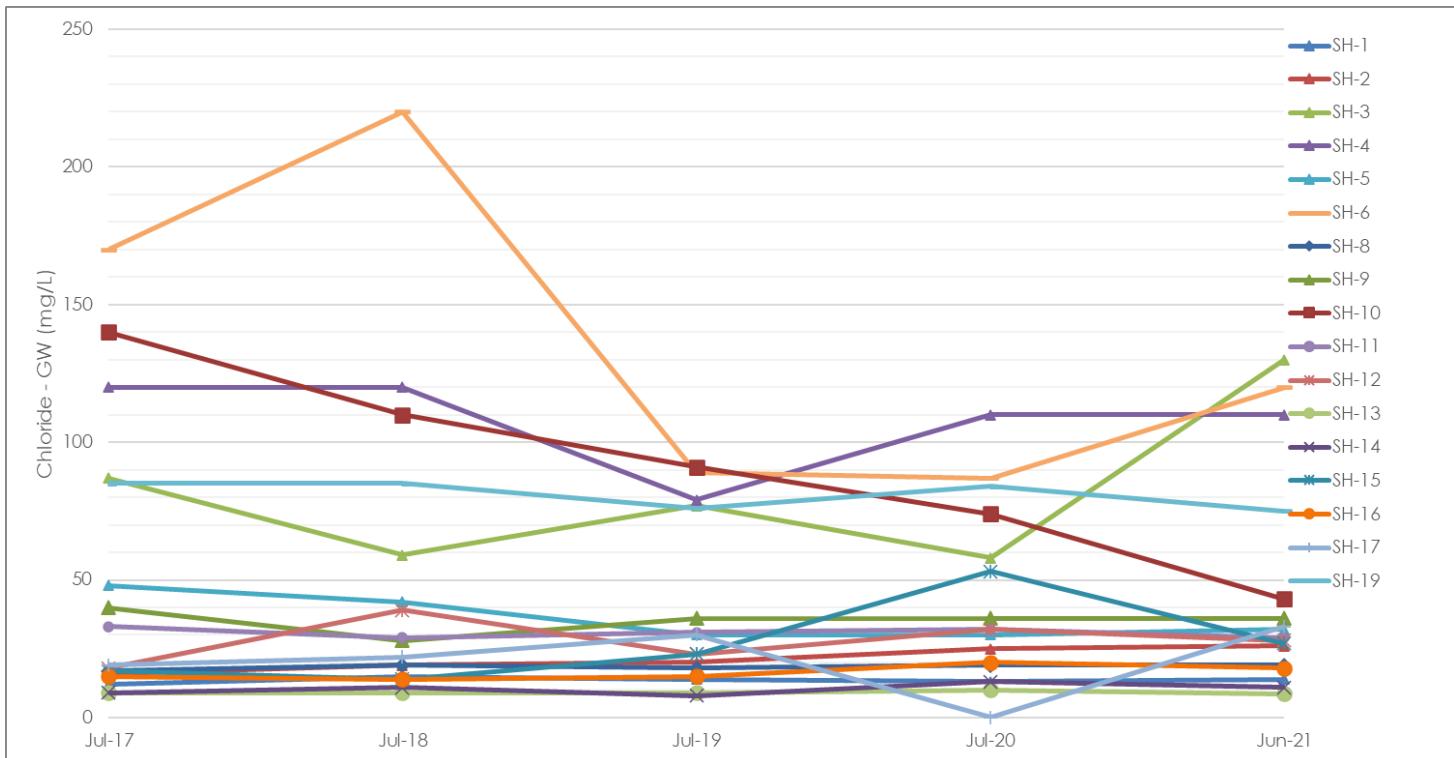


Figure C. 3 Five-year Historical Trend (2017-2021) - Groundwater Chloride – QCRL

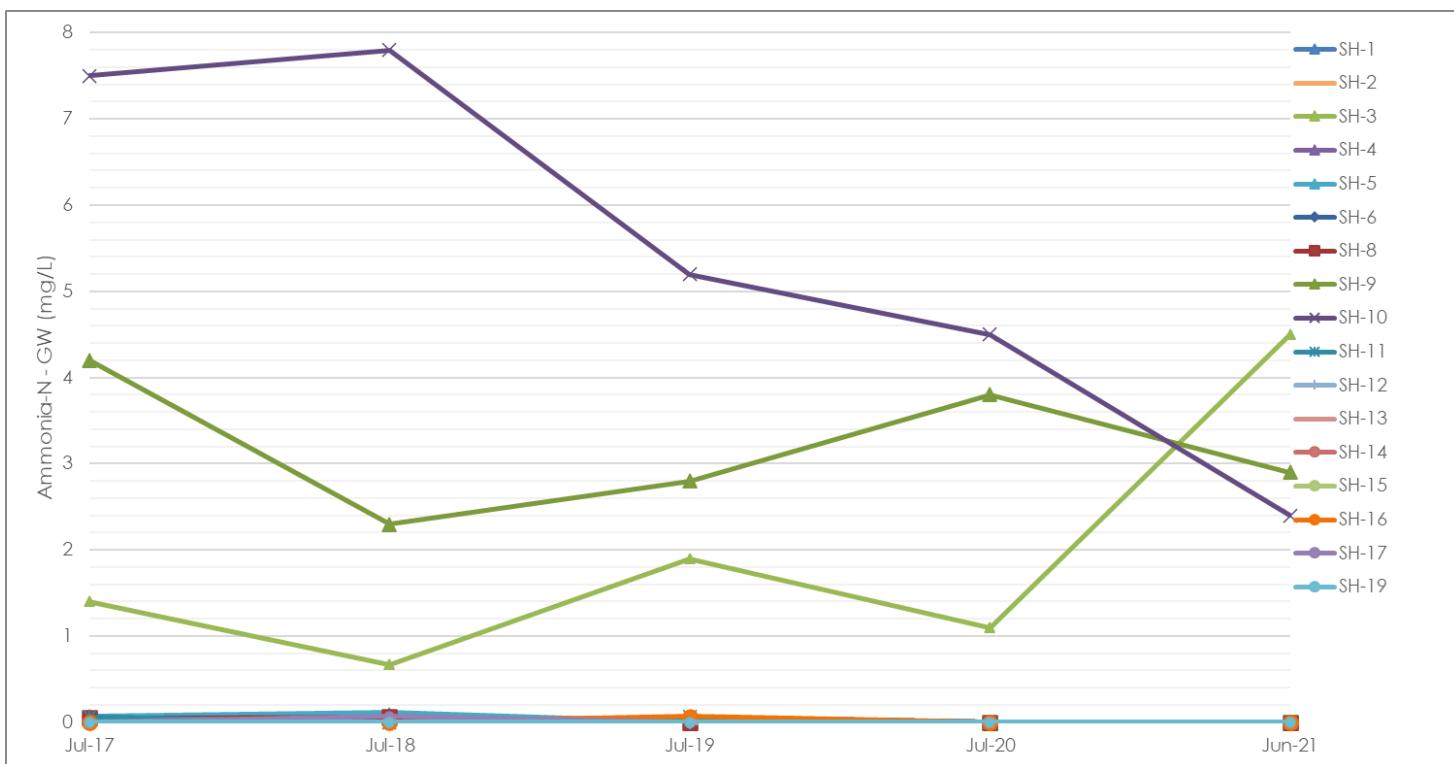


Figure C. 4 Five-year Historical Trend (2017-2021) - Groundwater Ammonia-N – QCRL

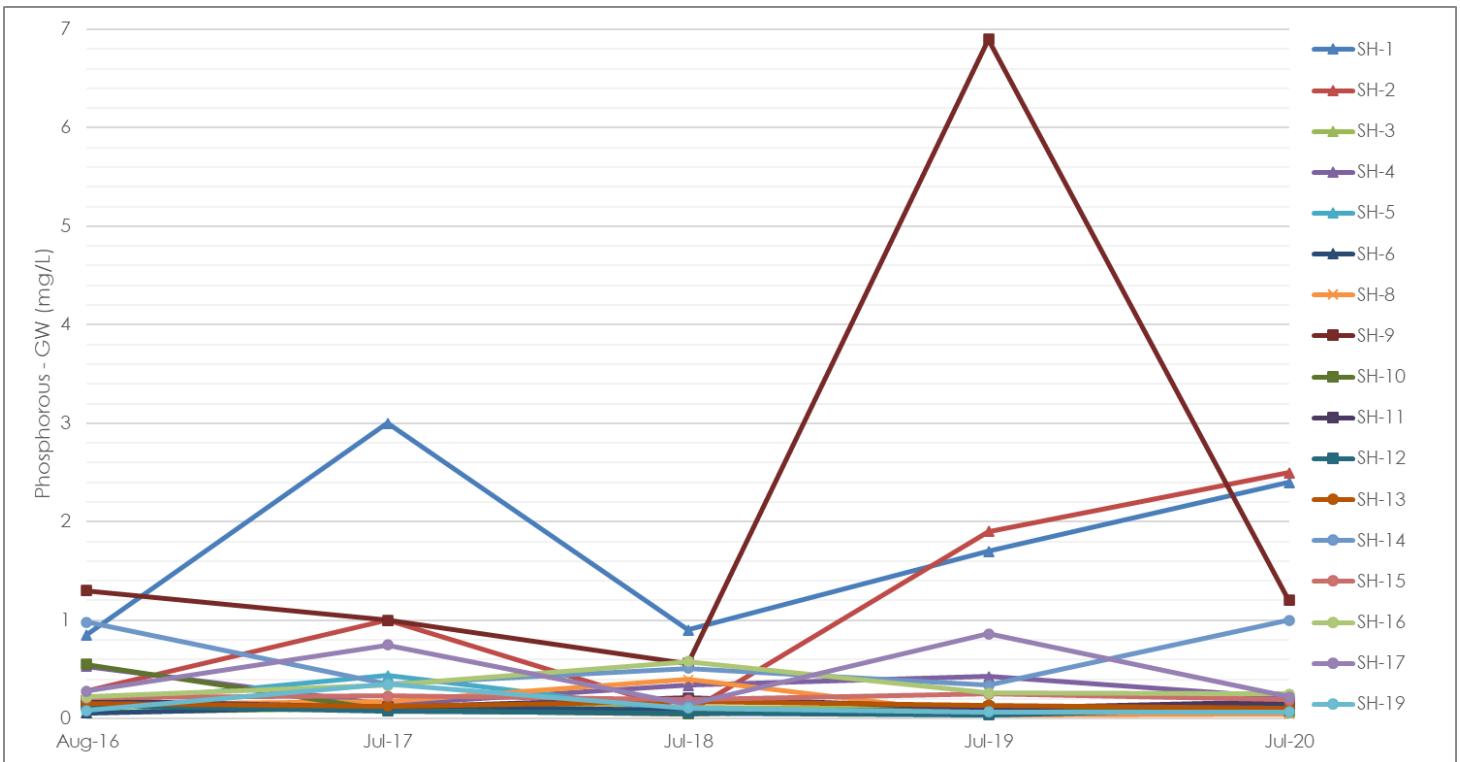


Figure C. 5 Five-year Historical Trend (2017-2021) - Groundwater Phosphorous – QCRL

Appendix D LABORATORY CERTIFICATE OF ANALYSES





BUREAU
VERITAS

Your Project #: 121431175.200.203
Your C.O.C. #: 827671-01-01, 827671-02-01

Attention: Stephanie Griffin

Stantec Consulting Ltd
165 Maple Hills Ave
Charlottetown, PE
CANADA C1C 1N9

Report Date: 2021/07/21
Report #: R6729273
Version: 3 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H1486

Received: 2021/06/22, 09:17

Sample Matrix: Water
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	16	N/A	2021/06/24	N/A	SM 23 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	1	N/A	2021/06/28	N/A	SM 23 4500-CO2 D
Alkalinity	15	N/A	2021/06/28	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity	2	N/A	2021/06/29	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	17	N/A	2021/06/28	ATL SOP 00014	SM 23 4500-Cl- E m
Chemical Oxygen Demand (COD)	17	2021/06/24	2021/06/24	ATL SOP 00042	SM 23 5220D m
Colour	16	N/A	2021/06/28	ATL SOP 00020	SM 23 2120C m
Colour	1	N/A	2021/06/29	ATL SOP 00020	SM 23 2120C m
Dioxins/Furans in Water (1613B) (1, 2)	2	2021/07/14	2021/07/18	BRL SOP-00410	EPA 1613B m
Organic carbon - Diss (DOC) (as rec'd) (3)	11	N/A	2021/06/26	ATL SOP 00203	SM 23 5310B m
Organic carbon - Diss (DOC) (as rec'd) (3)	6	N/A	2021/06/27	ATL SOP 00203	SM 23 5310B m
Conductance - water	16	N/A	2021/06/24	ATL SOP 00004	SM 23 2510B m
Conductance - water	1	N/A	2021/06/28	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO ₃)	16	N/A	2021/06/25	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO ₃)	1	N/A	2021/06/28	ATL SOP 00048	Auto Calc
Mercury - Dissolved (CVAA,LL)	17	2021/06/28	2021/06/28	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS (as rec'd)	17	N/A	2021/06/25	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	17	N/A	2021/06/29	N/A	Auto Calc.
Anion and Cation Sum	15	N/A	2021/06/25	N/A	Auto Calc.
Anion and Cation Sum	1	N/A	2021/06/28	N/A	Auto Calc.
Anion and Cation Sum	1	N/A	2021/06/29	N/A	Auto Calc.
Nitrogen Ammonia - water	16	N/A	2021/06/24	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water	1	N/A	2021/06/28	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	17	N/A	2021/06/28	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	17	N/A	2021/06/28	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	17	N/A	2021/06/29	ATL SOP 00018	ASTM D3867-16
PCBs in water by GC/ECD	2	2021/06/24	2021/06/28	ATL SOP 00107	EPA 8082A m
PCB Aroclor sum (water)	2	N/A	2021/06/28	N/A	Auto Calc.
Phenols (4AAP) (1)	17	N/A	2021/06/25	CAM SOP-00444	OMOE E3179 m
pH (4)	16	N/A	2021/06/24	ATL SOP 00003	SM 23 4500-H+ B m
pH (4)	1	N/A	2021/06/28	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	17	N/A	2021/06/28	ATL SOP 00021	SM 23 4500-P E m



BUREAU
VERITAS

Your Project #: 121431175.200.203
Your C.O.C. #: 827671-01-01, 827671-02-01

Attention: Stephanie Griffin

Stantec Consulting Ltd
165 Maple Hills Ave
Charlottetown, PE
CANADA C1C 1N9

Report Date: 2021/07/21
Report #: R6729273
Version: 3 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H1486

Received: 2021/06/22, 09:17

Sample Matrix: Water
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Sat. pH and Langelier Index (@ 20C)	17	N/A	2021/06/29	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	17	N/A	2021/06/29	ATL SOP 00049	Auto Calc.
Reactive Silica	17	N/A	2021/06/28	ATL SOP 00022	EPA 366.0 m
Sulphate	17	N/A	2021/06/28	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	17	N/A	2021/06/29	N/A	Auto Calc.
Total Kjeldahl Nitrogen in Water (1)	16	2021/06/25	2021/06/25	CAM SOP-00938	OMOE E3516 m
Total Kjeldahl Nitrogen in Water (1)	1	2021/06/25	2021/06/29	CAM SOP-00938	OMOE E3516 m
Organic carbon - Total (TOC) (5)	10	N/A	2021/06/28	ATL SOP 00203	SM 23 5310B m
Organic carbon - Total (TOC) (5)	7	N/A	2021/06/29	ATL SOP 00203	SM 23 5310B m
Phosphorus Total Colourimetry	17	2021/06/23	2021/06/24	ATL SOP 00057	EPA 365.1 R2 m
Total Suspended Solids	17	2021/06/24	2021/06/28	ATL SOP 00007	SM 23 2540D m
Turbidity	3	N/A	2021/06/23	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	14	N/A	2021/06/24	ATL SOP 00011	EPA 180.1 R2 m
Volatile Organic Compounds in Water	2	N/A	2021/06/24	ATL SOP 00133	EPA 8260D R4 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.



BUREAU
VERITAS

Your Project #: 121431175.200.203
Your C.O.C. #: 827671-01-01, 827671-02-01

Attention: Stephanie Griffin

Stantec Consulting Ltd
165 Maple Hills Ave
Charlottetown, PE
CANADA C1C 1N9

Report Date: 2021/07/21
Report #: R6729273
Version: 3 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H1486

Received: 2021/06/22, 09:17

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Bureau Veritas Mississauga
- (2) Confirmatory runs for 2,3,7,8-TCDF are performed only if the primary result is greater than the RDL.
- (3) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC
- (4) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.
- (5) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Marie Muise, Key Account Specialist
Email: Marie.MUISE@bureauveritas.com
Phone# (902)420-0203 Ext:253

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB302		PXB303			
Sampling Date		2021/06/17		2021/06/17			
COC Number		827671-01-01		827671-01-01			
	UNITS	SH-1	RDL	QC Batch	SH-2	RDL	MDL
Calculated Parameters							
Anion Sum	me/L	3.48	N/A	7421570	3.25	N/A	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	150	1.0	7421565	120	1.0	0.20
Calculated TDS	mg/L	170	1.0	7421578	170	1.0	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	7421565	<1.0	1.0	0.20
Cation Sum	me/L	3.44	N/A	7421570	3.19	N/A	N/A
Hardness (CaCO3)	mg/L	160	1.0	7421568	140	1.0	1.0
Ion Balance (% Difference)	%	0.580	N/A	7421569	0.930	N/A	N/A
Langelier Index (@ 20C)	N/A	-0.0850		7421575	-0.177		7421575
Langelier Index (@ 4C)	N/A	-0.335		7421576	-0.427		7421576
Nitrate (N)	mg/L	0.13	0.050	7421572	0.60	0.050	N/A
Saturation pH (@ 20C)	N/A	7.68		7421575	7.83		7421575
Saturation pH (@ 4C)	N/A	7.93		7421576	8.08		7421576
Inorganics							
Total Alkalinity (Total as CaCO3)	mg/L	150	25	7429077	120	25	N/A
Dissolved Chloride (Cl-)	mg/L	14	1.0	7429079	26	1.0	N/A
Colour	TCU	<5.0	5.0	7429083	<5.0	5.0	N/A
Nitrate + Nitrite (N)	mg/L	0.13	0.050	7429085	0.60	0.050	N/A
Nitrite (N)	mg/L	<0.010	0.010	7429088	<0.010	0.010	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	7426774	<0.050	0.050	N/A
Total Organic Carbon (C)	mg/L	5.3 (1)	5.0	7432667	2.0	0.50	N/A
Orthophosphate (P)	mg/L	0.092	0.010	7429084	<0.010	0.010	N/A
pH	pH	7.60		7426498	7.66		7426498
Reactive Silica (SiO2)	mg/L	5.8	0.50	7429081	4.7	0.50	N/A
Dissolved Sulphate (SO4)	mg/L	2.7	2.0	7429080	5.7	2.0	N/A
Turbidity	NTU	450	1.0	7426551	110	1.0	1.0
Conductivity	uS/cm	320	1.0	7426497	310	1.0	N/A
Metals							
Dissolved Aluminum (Al)	ug/L	10	5.0	7426808	6.2	5.0	N/A
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A
Dissolved Barium (Ba)	ug/L	62	1.0	7426808	150	1.0	N/A
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A
Dissolved Boron (B)	ug/L	<50	50	7426808	<50	50	N/A
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
N/A = Not Applicable							
(1) Elevated reporting limit due to turbidity.							



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB302		PXB303			
Sampling Date		2021/06/17		2021/06/17			
COC Number		827671-01-01		827671-01-01			
	UNITS	SH-1	RDL	QC Batch	SH-2	RDL	MDL
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	7426808	<0.010	0.010	N/A
Dissolved Calcium (Ca)	ug/L	33000	100	7426808	29000	100	N/A
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	7426808	<0.40	0.40	N/A
Dissolved Copper (Cu)	ug/L	<0.50	0.50	7426808	<0.50	0.50	N/A
Dissolved Iron (Fe)	ug/L	<50	50	7426808	68	50	N/A
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7426808	<0.50	0.50	N/A
Dissolved Magnesium (Mg)	ug/L	18000	100	7426808	15000	100	N/A
Dissolved Manganese (Mn)	ug/L	<2.0	2.0	7426808	43	2.0	N/A
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A
Dissolved Phosphorus (P)	ug/L	100	100	7426808	<100	100	N/A
Dissolved Potassium (K)	ug/L	1400	100	7426808	1600	100	N/A
Dissolved Selenium (Se)	ug/L	<0.50	0.50	7426808	<0.50	0.50	N/A
Dissolved Silver (Ag)	ug/L	<0.10	0.10	7426808	<0.10	0.10	N/A
Dissolved Sodium (Na)	ug/L	5800	100	7426808	9800	100	N/A
Dissolved Strontium (Sr)	ug/L	24	2.0	7426808	28	2.0	N/A
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	7426808	<0.10	0.10	N/A
Dissolved Tin (Sn)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A
Dissolved Uranium (U)	ug/L	0.14	0.10	7426808	0.11	0.10	N/A
Dissolved Vanadium (V)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7426808	<5.0	5.0	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB304			PXB305				
Sampling Date		2021/06/17			2021/06/17				
COC Number		827671-01-01			827671-01-01				
	UNITS	SH-3	RDL	MDL	QC Batch	SH-4	RDL	MDL	QC Batch

Calculated Parameters

Anion Sum	me/L	12.7	N/A	N/A	7421570	8.11	N/A	N/A	7421570
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	420	1.0	0.20	7421565	240	1.0	0.20	7421565
Calculated TDS	mg/L	650	1.0	0.20	7421578	410	1.0	0.20	7421578
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	0.20	7421565	1.5	1.0	0.20	7421565
Cation Sum	me/L	12.0	N/A	N/A	7421570	7.72	N/A	N/A	7421570
Hardness (CaCO3)	mg/L	410	1.0	1.0	7422679	320	1.0	1.0	7422679
Ion Balance (% Difference)	%	2.67	N/A	N/A	7421569	2.46	N/A	N/A	7421569
Langelier Index (@ 20C)	N/A	0.352			7421575	0.569			7421575
Langelier Index (@ 4C)	N/A	0.104			7421576	0.321			7421576
Nitrate (N)	mg/L	0.070	0.050	N/A	7422689	0.16	0.050	N/A	7422687
Saturation pH (@ 20C)	N/A	6.88			7421575	7.24			7421575
Saturation pH (@ 4C)	N/A	7.13			7421576	7.49			7421576

Inorganics

Total Alkalinity (Total as CaCO3)	mg/L	420	25	N/A	7429077	240	25	N/A	7429077
Dissolved Chloride (Cl-)	mg/L	130	5.0	N/A	7429079	110	5.0	N/A	7429079
Colour	TCU	5.9	5.0	N/A	7429083	<5.0	5.0	N/A	7429083
Nitrate + Nitrite (N)	mg/L	0.070	0.050	N/A	7429085	0.16	0.050	N/A	7429085
Nitrite (N)	mg/L	<0.010	0.010	N/A	7429088	<0.010	0.010	N/A	7429088
Nitrogen (Ammonia Nitrogen)	mg/L	4.5	0.25	N/A	7426774	<0.050	0.050	N/A	7426774
Total Organic Carbon (C)	mg/L	4.6	0.50	N/A	7432667	1.4	0.50	N/A	7432667
Orthophosphate (P)	mg/L	<0.010	0.010	N/A	7429084	<0.010	0.010	N/A	7429084
pH	pH	7.24			7426504	7.81			7426504
Reactive Silica (SiO2)	mg/L	7.0	0.50	N/A	7429081	9.1	0.50	N/A	7429081
Dissolved Sulphate (SO4)	mg/L	24	2.0	N/A	7429080	13	2.0	N/A	7429080
Turbidity	NTU	67	0.10	0.10	7426551	230	1.0	1.0	7426551
Conductivity	uS/cm	1200	1.0	N/A	7426500	800	1.0	N/A	7426500

Metals

Dissolved Aluminum (Al)	ug/L	<5.0	5.0	N/A	7426808	<5.0	5.0	N/A	7426808
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	N/A	7426808	<1.0	1.0	N/A	7426808
Dissolved Arsenic (As)	ug/L	<1.0	1.0	N/A	7426808	<1.0	1.0	N/A	7426808
Dissolved Barium (Ba)	ug/L	1300	1.0	N/A	7426808	840	1.0	N/A	7426808
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	N/A	7426808	<1.0	1.0	N/A	7426808
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	N/A	7426808	<2.0	2.0	N/A	7426808
Dissolved Boron (B)	ug/L	440	50	N/A	7426808	62	50	N/A	7426808
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	N/A	7426808	<0.010	0.010	N/A	7426808

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB304			PXB305			
Sampling Date		2021/06/17			2021/06/17			
COC Number		827671-01-01			827671-01-01			
	UNITS	SH-3	RDL	MDL	QC Batch	SH-4	RDL	MDL
								QC Batch
Dissolved Calcium (Ca)	ug/L	97000	100	N/A	7426808	68000	100	N/A
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	N/A	7426808	<1.0	1.0	N/A
Dissolved Cobalt (Co)	ug/L	0.75	0.40	N/A	7426808	0.55	0.40	N/A
Dissolved Copper (Cu)	ug/L	<0.50	0.50	N/A	7426808	<0.50	0.50	N/A
Dissolved Iron (Fe)	ug/L	4200	50	N/A	7426808	<50	50	N/A
Dissolved Lead (Pb)	ug/L	<0.50	0.50	N/A	7426808	<0.50	0.50	N/A
Dissolved Magnesium (Mg)	ug/L	41000	100	N/A	7426808	37000	100	N/A
Dissolved Manganese (Mn)	ug/L	4600	2.0	N/A	7426808	42	2.0	N/A
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	N/A	7426808	<2.0	2.0	N/A
Dissolved Nickel (Ni)	ug/L	5.2	2.0	N/A	7426808	2.2	2.0	N/A
Dissolved Phosphorus (P)	ug/L	<100	100	N/A	7426808	<100	100	N/A
Dissolved Potassium (K)	ug/L	17000	100	N/A	7426808	3000	100	N/A
Dissolved Selenium (Se)	ug/L	<0.50	0.50	N/A	7426808	<0.50	0.50	N/A
Dissolved Silver (Ag)	ug/L	<0.10	0.10	N/A	7426808	<0.10	0.10	N/A
Dissolved Sodium (Na)	ug/L	68000	100	N/A	7426808	28000	100	N/A
Dissolved Strontium (Sr)	ug/L	180	2.0	N/A	7426808	900	2.0	N/A
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	N/A	7426808	<0.10	0.10	N/A
Dissolved Tin (Sn)	ug/L	<2.0	2.0	N/A	7426808	<2.0	2.0	N/A
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	N/A	7426808	<2.0	2.0	N/A
Dissolved Uranium (U)	ug/L	1.0	0.10	N/A	7426808	50	0.10	N/A
Dissolved Vanadium (V)	ug/L	<2.0	2.0	N/A	7426808	<2.0	2.0	N/A
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	N/A	7426808	<5.0	5.0	N/A

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB306		PXB307			
Sampling Date		2021/06/17		2021/06/18			
COC Number		827671-01-01		827671-01-01			
	UNITS	SH-5	RDL	QC Batch	SH-6	RDL	MDL
Calculated Parameters							
Anion Sum	me/L	6.76	N/A	7421570	5.49	N/A	N/A
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	270	1.0	7421565	84	1.0	0.20
Calculated TDS	mg/L	340	1.0	7421578	300	1.0	0.20
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	7421565	<1.0	1.0	0.20
Cation Sum	me/L	6.51	N/A	7421570	5.11	N/A	N/A
Hardness (CaCO3)	mg/L	270	1.0	7422679	120	1.0	1.0
Ion Balance (% Difference)	%	1.88	N/A	7421569	3.58	N/A	N/A
Langelier Index (@ 20C)	N/A	0.337		7421575	-1.36		7421575
Langelier Index (@ 4C)	N/A	0.0880		7421576	-1.61		7421576
Nitrate (N)	mg/L	1.2	0.050	7422689	0.78	0.050	N/A
Saturation pH (@ 20C)	N/A	7.22		7421575	8.06		7421575
Saturation pH (@ 4C)	N/A	7.47		7421576	8.31		7421576
Inorganics							
Total Alkalinity (Total as CaCO3)	mg/L	270	25	7429077	84	5.0	N/A
Dissolved Chloride (Cl-)	mg/L	32	1.0	7429079	120	5.0	N/A
Colour	TCU	<5.0	5.0	7429083	<5.0	5.0	N/A
Nitrate + Nitrite (N)	mg/L	1.2	0.050	7429085	0.78	0.050	N/A
Nitrite (N)	mg/L	0.057	0.010	7429088	<0.010	0.010	N/A
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	7426774	<0.050	0.050	N/A
Total Organic Carbon (C)	mg/L	1.5	0.50	7432667	1.3	0.50	N/A
Orthophosphate (P)	mg/L	<0.010	0.010	7429084	<0.010	0.010	N/A
pH	pH	7.56		7426504	6.70		7426504
Reactive Silica (SiO2)	mg/L	5.8	0.50	7429081	4.5	0.50	N/A
Dissolved Sulphate (SO4)	mg/L	16	2.0	7429080	15	2.0	N/A
Turbidity	NTU	430	1.0	7426551	120	1.0	1.0
Conductivity	uS/cm	620	1.0	7426500	580	1.0	N/A
Metals							
Dissolved Aluminum (Al)	ug/L	<5.0	5.0	7426808	<5.0	5.0	N/A
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A
Dissolved Barium (Ba)	ug/L	280	1.0	7426808	280	1.0	N/A
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A
Dissolved Boron (B)	ug/L	120	50	7426808	65	50	N/A
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	7426808	<0.010	0.010	N/A
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
N/A = Not Applicable							



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB306			PXB307			
Sampling Date		2021/06/17			2021/06/18			
COC Number		827671-01-01			827671-01-01			
	UNITS	SH-5	RDL	QC Batch	SH-6	RDL	MDL	QC Batch
Dissolved Calcium (Ca)	ug/L	59000	100	7426808	27000	100	N/A	7426808
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A	7426808
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	7426808	<0.40	0.40	N/A	7426808
Dissolved Copper (Cu)	ug/L	<0.50	0.50	7426808	<0.50	0.50	N/A	7426808
Dissolved Iron (Fe)	ug/L	770	50	7426808	800	50	N/A	7426808
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7426808	<0.50	0.50	N/A	7426808
Dissolved Magnesium (Mg)	ug/L	29000	100	7426808	13000	100	N/A	7426808
Dissolved Manganese (Mn)	ug/L	20	2.0	7426808	25	2.0	N/A	7426808
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A	7426808
Dissolved Nickel (Ni)	ug/L	2.2	2.0	7426808	2.2	2.0	N/A	7426808
Dissolved Phosphorus (P)	ug/L	<100	100	7426808	<100	100	N/A	7426808
Dissolved Potassium (K)	ug/L	1500	100	7426808	2400	100	N/A	7426808
Dissolved Selenium (Se)	ug/L	<0.50	0.50	7426808	<0.50	0.50	N/A	7426808
Dissolved Silver (Ag)	ug/L	<0.10	0.10	7426808	<0.10	0.10	N/A	7426808
Dissolved Sodium (Na)	ug/L	25000	100	7426808	60000	100	N/A	7426808
Dissolved Strontium (Sr)	ug/L	36	2.0	7426808	38	2.0	N/A	7426808
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	7426808	<0.10	0.10	N/A	7426808
Dissolved Tin (Sn)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A	7426808
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A	7426808
Dissolved Uranium (U)	ug/L	0.55	0.10	7426808	<0.10	0.10	N/A	7426808
Dissolved Vanadium (V)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A	7426808
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7426808	<5.0	5.0	N/A	7426808

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB308			PXB308				
Sampling Date		2021/06/17			2021/06/17				
COC Number		827671-01-01			827671-01-01				
	UNITS	SH-8	RDL	MDL	QC Batch	SH-8 Lab-Dup	RDL	MDL	QC Batch

Calculated Parameters

Anion Sum	me/L	3.15	N/A	N/A	7421570			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	110	1.0	0.20	7421565			
Calculated TDS	mg/L	170	1.0	0.20	7421578			
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.3	1.0	0.20	7421565			
Cation Sum	me/L	3.10	N/A	N/A	7421570			
Hardness (CaCO3)	mg/L	140	1.0	1.0	7422679			
Ion Balance (% Difference)	%	0.800	N/A	N/A	7421569			
Langelier Index (@ 20C)	N/A	0.247			7421575			
Langelier Index (@ 4C)	N/A	-0.00300			7421576			
Nitrate (N)	mg/L	3.4	0.25	N/A	7422689			
Saturation pH (@ 20C)	N/A	7.85			7421575			
Saturation pH (@ 4C)	N/A	8.10			7421576			

Inorganics

Total Alkalinity (Total as CaCO3)	mg/L	110	25	N/A	7429077			
Dissolved Chloride (Cl-)	mg/L	18	1.0	N/A	7429079			
Colour	TCU	<5.0	5.0	N/A	7429083			
Nitrate + Nitrite (N)	mg/L	3.4	0.25	N/A	7429085			
Nitrite (N)	mg/L	<0.010	0.010	N/A	7429088			
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	N/A	7426806			
Total Organic Carbon (C)	mg/L	<0.50	0.50	N/A	7432667			
Orthophosphate (P)	mg/L	0.031	0.010	N/A	7429084			
pH	pH	8.09			7432620			
Reactive Silica (SiO2)	mg/L	7.5	0.50	N/A	7429081			
Dissolved Sulphate (SO4)	mg/L	7.0	2.0	N/A	7429080			
Turbidity	NTU	4.8	0.10	0.10	7426551			
Conductivity	uS/cm	310	1.0	N/A	7432616			

Metals

Dissolved Aluminum (Al)	ug/L	11	5.0	N/A	7426808	11	5.0	N/A	7426808
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	N/A	7426808	<1.0	1.0	N/A	7426808
Dissolved Arsenic (As)	ug/L	1.9	1.0	N/A	7426808	1.7	1.0	N/A	7426808
Dissolved Barium (Ba)	ug/L	370	1.0	N/A	7426808	380	1.0	N/A	7426808
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	N/A	7426808	<1.0	1.0	N/A	7426808
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	N/A	7426808	<2.0	2.0	N/A	7426808
Dissolved Boron (B)	ug/L	<50	50	N/A	7426808	<50	50	N/A	7426808

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB308			PXB308				
Sampling Date		2021/06/17			2021/06/17				
COC Number		827671-01-01			827671-01-01				
	UNITS	SH-8	RDL	MDL	QC Batch	SH-8 Lab-Dup	RDL	MDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	N/A	7426808	<0.010	0.010	N/A	7426808
Dissolved Calcium (Ca)	ug/L	31000	100	N/A	7426808	30000	100	N/A	7426808
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	N/A	7426808	<1.0	1.0	N/A	7426808
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	N/A	7426808	<0.40	0.40	N/A	7426808
Dissolved Copper (Cu)	ug/L	<0.50	0.50	N/A	7426808	<0.50	0.50	N/A	7426808
Dissolved Iron (Fe)	ug/L	<50	50	N/A	7426808	<50	50	N/A	7426808
Dissolved Lead (Pb)	ug/L	<0.50	0.50	N/A	7426808	<0.50	0.50	N/A	7426808
Dissolved Magnesium (Mg)	ug/L	15000	100	N/A	7426808	15000	100	N/A	7426808
Dissolved Manganese (Mn)	ug/L	4.3	2.0	N/A	7426808	4.2	2.0	N/A	7426808
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	N/A	7426808	<2.0	2.0	N/A	7426808
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	N/A	7426808	<2.0	2.0	N/A	7426808
Dissolved Phosphorus (P)	ug/L	<100	100	N/A	7426808	<100	100	N/A	7426808
Dissolved Potassium (K)	ug/L	1300	100	N/A	7426808	1300	100	N/A	7426808
Dissolved Selenium (Se)	ug/L	<0.50	0.50	N/A	7426808	<0.50	0.50	N/A	7426808
Dissolved Silver (Ag)	ug/L	<0.10	0.10	N/A	7426808	<0.10	0.10	N/A	7426808
Dissolved Sodium (Na)	ug/L	6800	100	N/A	7426808	6600	100	N/A	7426808
Dissolved Strontium (Sr)	ug/L	150	2.0	N/A	7426808	150	2.0	N/A	7426808
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	N/A	7426808	<0.10	0.10	N/A	7426808
Dissolved Tin (Sn)	ug/L	<2.0	2.0	N/A	7426808	<2.0	2.0	N/A	7426808
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	N/A	7426808	<2.0	2.0	N/A	7426808
Dissolved Uranium (U)	ug/L	1.4	0.10	N/A	7426808	1.4	0.10	N/A	7426808
Dissolved Vanadium (V)	ug/L	3.6	2.0	N/A	7426808	3.3	2.0	N/A	7426808
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	N/A	7426808	<5.0	5.0	N/A	7426808

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB309			PXB310			
Sampling Date		2021/06/17			2021/06/17			
COC Number		827671-01-01			827671-01-01			
	UNITS	SH-9	RDL	QC Batch	SH-10	RDL	MDL	QC Batch

Calculated Parameters								
Anion Sum	me/L	7.23	N/A	7421570	7.36	N/A	N/A	7422684
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	290	1.0	7421565	270	1.0	0.20	7422674
Calculated TDS	mg/L	380	1.0	7421578	380	1.0	0.20	7422698
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	7421565	<1.0	1.0	0.20	7422674
Cation Sum	me/L	6.81	N/A	7421570	6.93	N/A	N/A	7422684
Hardness (CaCO3)	mg/L	230	1.0	7422679	270	1.0	1.0	7422679
Ion Balance (% Difference)	%	2.99	N/A	7421569	3.01	N/A	N/A	7422680
Langelier Index (@ 20C)	N/A	-0.0910		7421575	0.173			7422693
Langelier Index (@ 4C)	N/A	-0.340		7421576	-0.0750			7422696
Nitrate (N)	mg/L	<0.050	0.050	7422689	3.2	0.25	N/A	7422689
Saturation pH (@ 20C)	N/A	7.21		7421575	7.19			7422693
Saturation pH (@ 4C)	N/A	7.46		7421576	7.44			7422696
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	290	25	7429077	270	25	N/A	7429077
Dissolved Chloride (Cl-)	mg/L	36	1.0	7429079	43	1.0	N/A	7429079
Colour	TCU	<5.0	5.0	7429083	<5.0	5.0	N/A	7429083
Nitrate + Nitrite (N)	mg/L	<0.050	0.050	7429085	3.2	0.25	N/A	7429085
Nitrite (N)	mg/L	<0.010	0.010	7429088	0.028	0.010	N/A	7429088
Nitrogen (Ammonia Nitrogen)	mg/L	2.9	0.25	7426806	2.4	0.25	N/A	7426806
Total Organic Carbon (C)	mg/L	2.5	0.50	7432667	1.9	0.50	N/A	7432667
Orthophosphate (P)	mg/L	<0.010	0.010	7429084	0.014	0.010	N/A	7429084
pH	pH	7.12		7426504	7.36			7426504
Reactive Silica (SiO2)	mg/L	6.1	0.50	7429081	6.7	0.50	N/A	7429081
Dissolved Sulphate (SO4)	mg/L	17	2.0	7429080	23	2.0	N/A	7429080
Turbidity	NTU	53	0.10	7426551	9.5	0.10	0.10	7426551
Conductivity	uS/cm	680	1.0	7426500	680	1.0	N/A	7426500
Metals								
Dissolved Aluminum (Al)	ug/L	<5.0	5.0	7426808	5.4	5.0	N/A	7426808
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A	7426808
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A	7426808
Dissolved Barium (Ba)	ug/L	420	1.0	7426808	130	1.0	N/A	7426808
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A	7426808
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A	7426808
Dissolved Boron (B)	ug/L	470	50	7426808	170	50	N/A	7426808
Dissolved Cadmium (Cd)	ug/L	0.039	0.010	7426808	<0.010	0.010	N/A	7426808
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
N/A = Not Applicable								



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB309			PXB310			
Sampling Date		2021/06/17			2021/06/17			
COC Number		827671-01-01			827671-01-01			
	UNITS	SH-9	RDL	QC Batch	SH-10	RDL	MDL	QC Batch
Dissolved Calcium (Ca)	ug/L	58000	100	7426808	66000	100	N/A	7426808
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	7426808	<1.0	1.0	N/A	7426808
Dissolved Cobalt (Co)	ug/L	7.4	0.40	7426808	<0.40	0.40	N/A	7426808
Dissolved Copper (Cu)	ug/L	<0.50	0.50	7426808	0.97	0.50	N/A	7426808
Dissolved Iron (Fe)	ug/L	1200	50	7426808	<50	50	N/A	7426808
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7426808	<0.50	0.50	N/A	7426808
Dissolved Magnesium (Mg)	ug/L	20000	100	7426808	27000	100	N/A	7426808
Dissolved Manganese (Mn)	ug/L	4700	2.0	7426808	610	2.0	N/A	7426808
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A	7426808
Dissolved Nickel (Ni)	ug/L	3.6	2.0	7426808	<2.0	2.0	N/A	7426808
Dissolved Phosphorus (P)	ug/L	<100	100	7426808	<100	100	N/A	7426808
Dissolved Potassium (K)	ug/L	18000	100	7426808	9400	100	N/A	7426808
Dissolved Selenium (Se)	ug/L	<0.50	0.50	7426808	<0.50	0.50	N/A	7426808
Dissolved Silver (Ag)	ug/L	<0.10	0.10	7426808	<0.10	0.10	N/A	7426808
Dissolved Sodium (Na)	ug/L	36000	100	7426808	24000	100	N/A	7426808
Dissolved Strontium (Sr)	ug/L	140	2.0	7426808	83	2.0	N/A	7426808
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	7426808	<0.10	0.10	N/A	7426808
Dissolved Tin (Sn)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A	7426808
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A	7426808
Dissolved Uranium (U)	ug/L	1.2	0.10	7426808	0.29	0.10	N/A	7426808
Dissolved Vanadium (V)	ug/L	<2.0	2.0	7426808	<2.0	2.0	N/A	7426808
Dissolved Zinc (Zn)	ug/L	12	5.0	7426808	<5.0	5.0	N/A	7426808

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB311			PXB311				
Sampling Date		2021/06/17			2021/06/17				
COC Number		827671-01-01			827671-01-01				
	UNITS	SH-11	RDL	MDL	QC Batch	SH-11 Lab-Dup	RDL	MDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	3.83	N/A	N/A	7422684				
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	140	1.0	0.20	7422674				
Calculated TDS	mg/L	190	1.0	0.20	7422700				
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.2	1.0	0.20	7422674				
Cation Sum	me/L	3.53	N/A	N/A	7422684				
Hardness (CaCO3)	mg/L	150	1.0	1.0	7422679				
Ion Balance (% Difference)	%	4.08	N/A	N/A	7422682				
Langelier Index (@ 20C)	N/A	0.235			7422695				
Langelier Index (@ 4C)	N/A	-0.0150			7422696				
Nitrate (N)	mg/L	0.73	0.050	N/A	7422689				
Saturation pH (@ 20C)	N/A	7.73			7422695				
Saturation pH (@ 4C)	N/A	7.98			7422696				
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	140	25	N/A	7429077				
Dissolved Chloride (Cl-)	mg/L	29	1.0	N/A	7429079				
Colour	TCU	<5.0	5.0	N/A	7429083				
Nitrate + Nitrite (N)	mg/L	0.73	0.050	N/A	7429085				
Nitrite (N)	mg/L	<0.010	0.010	N/A	7429088				
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	N/A	7426806				
Total Organic Carbon (C)	mg/L	<5.0 (1)	5.0	N/A	7432675				
Orthophosphate (P)	mg/L	<0.010	0.010	N/A	7429084				
pH	pH	7.97			7426504				
Reactive Silica (SiO2)	mg/L	8.9	0.50	N/A	7429081				
Dissolved Sulphate (SO4)	mg/L	4.4	2.0	N/A	7429080				
Turbidity	NTU	680	1.0	1.0	7426551	700	1.0	1.0	7426551
Conductivity	uS/cm	350	1.0	N/A	7426500				
Metals									
Dissolved Aluminum (Al)	ug/L	<5.0	5.0	N/A	7426808				
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	N/A	7426808				
Dissolved Arsenic (As)	ug/L	<1.0	1.0	N/A	7426808				
Dissolved Barium (Ba)	ug/L	630	1.0	N/A	7426808				
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	N/A	7426808				
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	N/A	7426808				
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Lab-Dup = Laboratory Initiated Duplicate									
N/A = Not Applicable									
(1) Elevated reporting limit due to turbidity.									

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB311			PXB311				
Sampling Date		2021/06/17			2021/06/17				
COC Number		827671-01-01			827671-01-01				
	UNITS	SH-11	RDL	MDL	QC Batch	SH-11 Lab-Dup	RDL	MDL	QC Batch
Dissolved Boron (B)	ug/L	53	50	N/A	7426808				
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	N/A	7426808				
Dissolved Calcium (Ca)	ug/L	32000	100	N/A	7426808				
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	N/A	7426808				
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	N/A	7426808				
Dissolved Copper (Cu)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Iron (Fe)	ug/L	<50	50	N/A	7426808				
Dissolved Lead (Pb)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Magnesium (Mg)	ug/L	17000	100	N/A	7426808				
Dissolved Manganese (Mn)	ug/L	12	2.0	N/A	7426808				
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Phosphorus (P)	ug/L	<100	100	N/A	7426808				
Dissolved Potassium (K)	ug/L	2400	100	N/A	7426808				
Dissolved Selenium (Se)	ug/L	1.0	0.50	N/A	7426808				
Dissolved Silver (Ag)	ug/L	<0.10	0.10	N/A	7426808				
Dissolved Sodium (Na)	ug/L	11000	100	N/A	7426808				
Dissolved Strontium (Sr)	ug/L	560	2.0	N/A	7426808				
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	N/A	7426808				
Dissolved Tin (Sn)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Uranium (U)	ug/L	13	0.10	N/A	7426808				
Dissolved Vanadium (V)	ug/L	2.5	2.0	N/A	7426808				
Dissolved Zinc (Zn)	ug/L	5.3	5.0	N/A	7426808				

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB312			PXB312				
Sampling Date		2021/06/18			2021/06/18				
COC Number		827671-02-01			827671-02-01				
	UNITS	SH-12	RDL	MDL	QC Batch	SH-12 Lab-Dup	RDL	MDL	QC Batch

Calculated Parameters

Anion Sum	me/L	1.21	N/A	N/A	7422684			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	15	1.0	0.20	7422674			
Calculated TDS	mg/L	68	1.0	0.20	7422700			
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	0.20	7422674			
Cation Sum	me/L	1.06	N/A	N/A	7422684			
Hardness (CaCO3)	mg/L	20	1.0	1.0	7422679			
Ion Balance (% Difference)	%	6.61	N/A	N/A	7422682			
Langelier Index (@ 20C)	N/A	-2.87			7422695			
Langelier Index (@ 4C)	N/A	-3.12			7422696			
Nitrate (N)	mg/L	0.24	0.050	N/A	7422689			
Saturation pH (@ 20C)	N/A	9.50			7422695			
Saturation pH (@ 4C)	N/A	9.76			7422696			

Inorganics

Total Alkalinity (Total as CaCO3)	mg/L	15	5.0	N/A	7429077			
Dissolved Chloride (Cl-)	mg/L	28	1.0	N/A	7429079			
Colour	TCU	<5.0	5.0	N/A	7429083			
Nitrate + Nitrite (N)	mg/L	0.24	0.050	N/A	7429085			
Nitrite (N)	mg/L	<0.010	0.010	N/A	7429088			
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	N/A	7429401	0.053	0.050	N/A
Total Organic Carbon (C)	mg/L	1.0	0.50	N/A	7432675			
Orthophosphate (P)	mg/L	<0.010	0.010	N/A	7429084			
pH	pH	6.63			7426504			
Reactive Silica (SiO2)	mg/L	2.9	0.50	N/A	7429081			
Dissolved Sulphate (SO4)	mg/L	5.1	2.0	N/A	7429080			
Turbidity	NTU	45	0.10	0.10	7426551			
Conductivity	uS/cm	130	1.0	N/A	7426500			

Metals

Dissolved Aluminum (Al)	ug/L	<5.0	5.0	N/A	7426808			
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	N/A	7426808			
Dissolved Arsenic (As)	ug/L	<1.0	1.0	N/A	7426808			
Dissolved Barium (Ba)	ug/L	29	1.0	N/A	7426808			
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	N/A	7426808			
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	N/A	7426808			
Dissolved Boron (B)	ug/L	<50	50	N/A	7426808			

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB312			PXB312				
Sampling Date		2021/06/18			2021/06/18				
COC Number		827671-02-01			827671-02-01				
	UNITS	SH-12	RDL	MDL	QC Batch	SH-12 Lab-Dup	RDL	MDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	N/A	7426808				
Dissolved Calcium (Ca)	ug/L	4400	100	N/A	7426808				
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	N/A	7426808				
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	N/A	7426808				
Dissolved Copper (Cu)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Iron (Fe)	ug/L	190	50	N/A	7426808				
Dissolved Lead (Pb)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Magnesium (Mg)	ug/L	2100	100	N/A	7426808				
Dissolved Manganese (Mn)	ug/L	11	2.0	N/A	7426808				
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Phosphorus (P)	ug/L	<100	100	N/A	7426808				
Dissolved Potassium (K)	ug/L	1600	100	N/A	7426808				
Dissolved Selenium (Se)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Silver (Ag)	ug/L	<0.10	0.10	N/A	7426808				
Dissolved Sodium (Na)	ug/L	14000	100	N/A	7426808				
Dissolved Strontium (Sr)	ug/L	10	2.0	N/A	7426808				
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	N/A	7426808				
Dissolved Tin (Sn)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Uranium (U)	ug/L	<0.10	0.10	N/A	7426808				
Dissolved Vanadium (V)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Zinc (Zn)	ug/L	6.4	5.0	N/A	7426808				

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB313		PXB314			PXB315			
Sampling Date		2021/06/17		2021/06/17			2021/06/17			
COC Number		827671-02-01		827671-02-01			827671-02-01			
	UNITS	SH-13	RDL	SH-14	RDL	MDL	SH-15	RDL	MDL	QC Batch

Calculated Parameters

Anion Sum	me/L	2.58	N/A	2.81	N/A	N/A	2.61	N/A	N/A	7422684
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	92	1.0	98	1.0	0.20	90	1.0	0.20	7422674
Calculated TDS	mg/L	140	1.0	150	1.0	0.20	140	1.0	0.20	7422700
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	<1.0	1.0	0.20	<1.0	1.0	0.20	7422674
Cation Sum	me/L	2.41	N/A	2.79	N/A	N/A	2.67	N/A	N/A	7422684
Hardness (CaCO3)	mg/L	110	1.0	130	1.0	1.0	120	1.0	1.0	7422679
Ion Balance (% Difference)	%	3.41	N/A	0.360	N/A	N/A	1.14	N/A	N/A	7422682
Langelier Index (@ 20C)	N/A	-0.0850		-0.663			-0.469			7422695
Langelier Index (@ 4C)	N/A	-0.335		-0.914			-0.719			7422696
Nitrate (N)	mg/L	5.7	0.25	5.0	0.25	N/A	0.35	0.050	N/A	7422689
Saturation pH (@ 20C)	N/A	8.03		7.95			8.01			7422695
Saturation pH (@ 4C)	N/A	8.28		8.20			8.26			7422696

Inorganics

Total Alkalinity (Total as CaCO3)	mg/L	92	5.0	98 (1)	10	N/A	91 (1)	10	N/A	7429093
Dissolved Chloride (Cl-)	mg/L	8.7	1.0	11	1.0	N/A	27	1.0	N/A	7429101
Colour	TCU	<5.0	5.0	<5.0	5.0	N/A	<5.0	5.0	N/A	7429109
Nitrate + Nitrite (N)	mg/L	5.7	0.25	5.0	0.25	N/A	0.35	0.050	N/A	7429115
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	N/A	<0.010	0.010	N/A	7429117
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	<0.050	0.050	N/A	<0.050	0.050	N/A	7426806
Total Organic Carbon (C)	mg/L	0.51	0.50	0.59	0.50	N/A	<5.0 (2)	5.0	N/A	7432675
Orthophosphate (P)	mg/L	0.067	0.010	0.069	0.010	N/A	0.076	0.010	N/A	7429112
pH	pH	7.95		7.29			7.54			7426504
Reactive Silica (SiO2)	mg/L	6.5	0.50	5.9	0.50	N/A	6.7	0.50	N/A	7429107
Dissolved Sulphate (SO4)	mg/L	3.6	2.0	7.4	2.0	N/A	<2.0	2.0	N/A	7429103
Turbidity	NTU	44	0.10	47	0.10	0.10	180	1.0	1.0	7426551
Conductivity	uS/cm	240	1.0	280	1.0	N/A	270	1.0	N/A	7426500

Metals

Dissolved Aluminum (Al)	ug/L	40	5.0	<5.0	5.0	N/A	8.4	5.0	N/A	7426808
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	<1.0	1.0	N/A	<1.0	1.0	N/A	7426808
Dissolved Arsenic (As)	ug/L	<1.0	1.0	<1.0	1.0	N/A	<1.0	1.0	N/A	7426808
Dissolved Barium (Ba)	ug/L	86	1.0	86	1.0	N/A	53	1.0	N/A	7426808
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	N/A	<1.0	1.0	N/A	7426808
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	N/A	<2.0	2.0	N/A	7426808

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Elevated reporting limit due to sample matrix.

(2) Elevated reporting limit due to turbidity.

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB313		PXB314			PXB315			
Sampling Date		2021/06/17		2021/06/17		<td>2021/06/17</td> <th></th> <th></th> <th></th>	2021/06/17			
COC Number		827671-02-01		827671-02-01		<td>827671-02-01</td> <th></th> <th></th> <th></th>	827671-02-01			
	UNITS	SH-13	RDL	SH-14	RDL	MDL	SH-15	RDL	MDL	QC Batch
Dissolved Boron (B)	ug/L	<50	50	<50	50	N/A	<50	50	N/A	7426808
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	<0.010	0.010	N/A	<0.010	0.010	N/A	7426808
Dissolved Calcium (Ca)	ug/L	23000	100	27000	100	N/A	25000	100	N/A	7426808
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	<1.0	1.0	N/A	<1.0	1.0	N/A	7426808
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	<0.40	0.40	N/A	<0.40	0.40	N/A	7426808
Dissolved Copper (Cu)	ug/L	<0.50	0.50	<0.50	0.50	N/A	<0.50	0.50	N/A	7426808
Dissolved Iron (Fe)	ug/L	<50	50	<50	50	N/A	<50	50	N/A	7426808
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	N/A	<0.50	0.50	N/A	7426808
Dissolved Magnesium (Mg)	ug/L	13000	100	15000	100	N/A	14000	100	N/A	7426808
Dissolved Manganese (Mn)	ug/L	2.1	2.0	4.2	2.0	N/A	3.6	2.0	N/A	7426808
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	<2.0	2.0	N/A	<2.0	2.0	N/A	7426808
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	N/A	<2.0	2.0	N/A	7426808
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	N/A	<100	100	N/A	7426808
Dissolved Potassium (K)	ug/L	1200	100	1900	100	N/A	1200	100	N/A	7426808
Dissolved Selenium (Se)	ug/L	<0.50	0.50	<0.50	0.50	N/A	<0.50	0.50	N/A	7426808
Dissolved Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	N/A	<0.10	0.10	N/A	7426808
Dissolved Sodium (Na)	ug/L	3700	100	4800	100	N/A	6300	100	N/A	7426808
Dissolved Strontium (Sr)	ug/L	13	2.0	20	2.0	N/A	12	2.0	N/A	7426808
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	<0.10	0.10	N/A	<0.10	0.10	N/A	7426808
Dissolved Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	N/A	<2.0	2.0	N/A	7426808
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	2.0	N/A	<2.0	2.0	N/A	7426808
Dissolved Uranium (U)	ug/L	<0.10	0.10	<0.10	0.10	N/A	<0.10	0.10	N/A	7426808
Dissolved Vanadium (V)	ug/L	2.4	2.0	<2.0	2.0	N/A	<2.0	2.0	N/A	7426808
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	<5.0	5.0	N/A	<5.0	5.0	N/A	7426808

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB316			PXB316				
Sampling Date		2021/06/17			2021/06/17				
COC Number		827671-02-01			827671-02-01				
	UNITS	SH-16	RDL	MDL	QC Batch	SH-16 Lab-Dup	RDL	MDL	QC Batch

Calculated Parameters

Anion Sum	me/L	2.86	N/A	N/A	7422684			
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	100	1.0	0.20	7422674			
Calculated TDS	mg/L	150	1.0	0.20	7422700			
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	<1.0	1.0	0.20	7422674			
Cation Sum	me/L	2.77	N/A	N/A	7422684			
Hardness (CaCO ₃)	mg/L	120	1.0	1.0	7422679			
Ion Balance (% Difference)	%	1.60	N/A	N/A	7422682			
Langelier Index (@ 20C)	N/A	0.0670			7422695			
Langelier Index (@ 4C)	N/A	-0.183			7422696			
Nitrate (N)	mg/L	2.7	0.25	N/A	7422689			
Saturation pH (@ 20C)	N/A	7.94			7422695			
Saturation pH (@ 4C)	N/A	8.19			7422696			

Inorganics

Total Alkalinity (Total as CaCO ₃)	mg/L	100	25	N/A	7429093				
Dissolved Chloride (Cl ⁻)	mg/L	18	1.0	N/A	7429101				
Colour	TCU	<5.0	5.0	N/A	7429109				
Nitrate + Nitrite (N)	mg/L	2.7	0.25	N/A	7429115				
Nitrite (N)	mg/L	<0.010	0.010	N/A	7429117				
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	N/A	7426806				
Total Organic Carbon (C)	mg/L	<5.0 (1)	5.0	N/A	7432663	<5.0 (1)	5.0	N/A	7432663
Orthophosphate (P)	mg/L	0.071	0.010	N/A	7429112				
pH	pH	8.00			7426504				
Reactive Silica (SiO ₂)	mg/L	5.7	0.50	N/A	7429107				
Dissolved Sulphate (SO ₄)	mg/L	4.7	2.0	N/A	7429103				
Turbidity	NTU	200	1.0	1.0	7424084				
Conductivity	uS/cm	280	1.0	N/A	7426500				

Metals

Dissolved Aluminum (Al)	ug/L	36	5.0	N/A	7426808			
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	N/A	7426808			
Dissolved Arsenic (As)	ug/L	<1.0	1.0	N/A	7426808			
Dissolved Barium (Ba)	ug/L	84	1.0	N/A	7426808			
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	N/A	7426808			
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	N/A	7426808			

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Elevated reporting limit due to turbidity.



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB316				PXB316			
Sampling Date		2021/06/17				2021/06/17			
COC Number		827671-02-01				827671-02-01			
	UNITS	SH-16	RDL	MDL	QC Batch	SH-16 Lab-Dup	RDL	MDL	QC Batch
Dissolved Boron (B)	ug/L	<50	50	N/A	7426808				
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	N/A	7426808				
Dissolved Calcium (Ca)	ug/L	27000	100	N/A	7426808				
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	N/A	7426808				
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	N/A	7426808				
Dissolved Copper (Cu)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Iron (Fe)	ug/L	<50	50	N/A	7426808				
Dissolved Lead (Pb)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Magnesium (Mg)	ug/L	14000	100	N/A	7426808				
Dissolved Manganese (Mn)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Phosphorus (P)	ug/L	<100	100	N/A	7426808				
Dissolved Potassium (K)	ug/L	1200	100	N/A	7426808				
Dissolved Selenium (Se)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Silver (Ag)	ug/L	<0.10	0.10	N/A	7426808				
Dissolved Sodium (Na)	ug/L	5800	100	N/A	7426808				
Dissolved Strontium (Sr)	ug/L	16	2.0	N/A	7426808				
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	N/A	7426808				
Dissolved Tin (Sn)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Uranium (U)	ug/L	<0.10	0.10	N/A	7426808				
Dissolved Vanadium (V)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	N/A	7426808				

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB317			PXB317				
Sampling Date		2021/06/18			2021/06/18				
COC Number		827671-02-01			827671-02-01				
	UNITS	SH-17	RDL	MDL	QC Batch	SH-17 Lab-Dup	RDL	MDL	QC Batch

Calculated Parameters

Anion Sum	me/L	2.98	N/A	N/A	7422684			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	99	1.0	0.20	7422674			
Calculated TDS	mg/L	150	1.0	0.20	7422700			
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	0.20	7422674			
Cation Sum	me/L	2.81	N/A	N/A	7422684			
Hardness (CaCO3)	mg/L	120	1.0	1.0	7422679			
Ion Balance (% Difference)	%	2.94	N/A	N/A	7422682			
Langelier Index (@ 20C)	N/A	-0.391			7422695			
Langelier Index (@ 4C)	N/A	-0.641			7422696			
Nitrate (N)	mg/L	0.79	0.050	N/A	7422689			
Saturation pH (@ 20C)	N/A	7.99			7422695			
Saturation pH (@ 4C)	N/A	8.24			7422696			

Inorganics

Total Alkalinity (Total as CaCO3)	mg/L	100	5.0	N/A	7429185	99	5.0	N/A	7429185
Dissolved Chloride (Cl-)	mg/L	30	1.0	N/A	7429186	30	1.0	N/A	7429186
Colour	TCU	<5.0	5.0	N/A	7429190	<5.0	5.0	N/A	7429190
Nitrate + Nitrite (N)	mg/L	0.79	0.050	N/A	7429193	0.81	0.050	N/A	7429193
Nitrite (N)	mg/L	<0.010	0.010	N/A	7429197	<0.010	0.010	N/A	7429197
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	N/A	7426748				
Total Organic Carbon (C)	mg/L	<5.0 (1)	5.0	N/A	7432675				
Orthophosphate (P)	mg/L	0.042	0.010	N/A	7429191	0.043	0.010	N/A	7429191
pH	pH	7.59			7426504	7.44			7426504
Reactive Silica (SiO2)	mg/L	5.0	0.50	N/A	7429189	5.1	0.50	N/A	7429189
Dissolved Sulphate (SO4)	mg/L	4.0	2.0	N/A	7429188	3.6	2.0	N/A	7429188
Turbidity	NTU	91	0.10	0.10	7424084				
Conductivity	uS/cm	270	1.0	N/A	7426500	280	1.0	N/A	7426500

Metals

Dissolved Aluminum (Al)	ug/L	<5.0	5.0	N/A	7426808			
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	N/A	7426808			
Dissolved Arsenic (As)	ug/L	<1.0	1.0	N/A	7426808			
Dissolved Barium (Ba)	ug/L	120	1.0	N/A	7426808			
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	N/A	7426808			
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	N/A	7426808			

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Elevated reporting limit due to turbidity.



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB317			PXB317				
Sampling Date		2021/06/18			2021/06/18				
COC Number		827671-02-01			827671-02-01				
	UNITS	SH-17	RDL	MDL	QC Batch	SH-17 Lab-Dup	RDL	MDL	QC Batch
Dissolved Boron (B)	ug/L	<50	50	N/A	7426808				
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	N/A	7426808				
Dissolved Calcium (Ca)	ug/L	24000	100	N/A	7426808				
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	N/A	7426808				
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	N/A	7426808				
Dissolved Copper (Cu)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Iron (Fe)	ug/L	<50	50	N/A	7426808				
Dissolved Lead (Pb)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Magnesium (Mg)	ug/L	14000	100	N/A	7426808				
Dissolved Manganese (Mn)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Phosphorus (P)	ug/L	<100	100	N/A	7426808				
Dissolved Potassium (K)	ug/L	1500	100	N/A	7426808				
Dissolved Selenium (Se)	ug/L	<0.50	0.50	N/A	7426808				
Dissolved Silver (Ag)	ug/L	<0.10	0.10	N/A	7426808				
Dissolved Sodium (Na)	ug/L	10000	100	N/A	7426808				
Dissolved Strontium (Sr)	ug/L	17	2.0	N/A	7426808				
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	N/A	7426808				
Dissolved Tin (Sn)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Uranium (U)	ug/L	0.12	0.10	N/A	7426808				
Dissolved Vanadium (V)	ug/L	<2.0	2.0	N/A	7426808				
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	N/A	7426808				

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB318			
Sampling Date		2021/06/18			
COC Number		827671-02-01			
	UNITS	SH-19	RDL	MDL	QC Batch
Calculated Parameters					
Anion Sum	me/L	6.23	N/A	N/A	7422684
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	190	1.0	0.20	7422674
Calculated TDS	mg/L	320	1.0	0.20	7422700
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	0.20	7422674
Cation Sum	me/L	6.00	N/A	N/A	7422684
Hardness (CaCO3)	mg/L	250	1.0	1.0	7422679
Ion Balance (% Difference)	%	1.88	N/A	N/A	7422682
Langelier Index (@ 20C)	N/A	-0.0250			7422695
Langelier Index (@ 4C)	N/A	-0.274			7422696
Nitrate (N)	mg/L	0.18	0.050	N/A	7422689
Saturation pH (@ 20C)	N/A	7.39			7422695
Saturation pH (@ 4C)	N/A	7.64			7422696
Inorganics					
Total Alkalinity (Total as CaCO3)	mg/L	190	25	N/A	7429093
Dissolved Chloride (Cl-)	mg/L	75	1.0	N/A	7429101
Colour	TCU	<5.0	5.0	N/A	7429109
Nitrate + Nitrite (N)	mg/L	0.19	0.050	N/A	7429115
Nitrite (N)	mg/L	0.016	0.010	N/A	7429117
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	N/A	7426806
Total Organic Carbon (C)	mg/L	0.92	0.50	N/A	7432675
Orthophosphate (P)	mg/L	<0.010	0.010	N/A	7429112
pH	pH	7.37			7426504
Reactive Silica (SiO2)	mg/L	6.6	0.50	N/A	7429107
Dissolved Sulphate (SO4)	mg/L	11	2.0	N/A	7429103
Turbidity	NTU	62	0.10	0.10	7424084
Conductivity	uS/cm	610	1.0	N/A	7426500
Metals					
Dissolved Aluminum (Al)	ug/L	<5.0	5.0	N/A	7426808
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	N/A	7426808
Dissolved Arsenic (As)	ug/L	<1.0	1.0	N/A	7426808
Dissolved Barium (Ba)	ug/L	680	1.0	N/A	7426808
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	N/A	7426808
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	N/A	7426808
Dissolved Boron (B)	ug/L	<50	50	N/A	7426808
Dissolved Cadmium (Cd)	ug/L	0.033	0.010	N/A	7426808
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
N/A = Not Applicable					



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

AT. RCAP-MS DISSOLVED (FIELDfilt) IN W

BV Labs ID		PXB318			
Sampling Date		2021/06/18			
COC Number		827671-02-01			
	UNITS	SH-19	RDL	MDL	QC Batch
Dissolved Calcium (Ca)	ug/L	56000	100	N/A	7426808
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	N/A	7426808
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	N/A	7426808
Dissolved Copper (Cu)	ug/L	<0.50	0.50	N/A	7426808
Dissolved Iron (Fe)	ug/L	480	50	N/A	7426808
Dissolved Lead (Pb)	ug/L	<0.50	0.50	N/A	7426808
Dissolved Magnesium (Mg)	ug/L	27000	100	N/A	7426808
Dissolved Manganese (Mn)	ug/L	1200	2.0	N/A	7426808
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	N/A	7426808
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	N/A	7426808
Dissolved Phosphorus (P)	ug/L	<100	100	N/A	7426808
Dissolved Potassium (K)	ug/L	1700	100	N/A	7426808
Dissolved Selenium (Se)	ug/L	<0.50	0.50	N/A	7426808
Dissolved Silver (Ag)	ug/L	<0.10	0.10	N/A	7426808
Dissolved Sodium (Na)	ug/L	21000	100	N/A	7426808
Dissolved Strontium (Sr)	ug/L	51	2.0	N/A	7426808
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	N/A	7426808
Dissolved Tin (Sn)	ug/L	<2.0	2.0	N/A	7426808
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	N/A	7426808
Dissolved Uranium (U)	ug/L	0.63	0.10	N/A	7426808
Dissolved Vanadium (V)	ug/L	<2.0	2.0	N/A	7426808
Dissolved Zinc (Zn)	ug/L	8.3	5.0	N/A	7426808
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
N/A = Not Applicable					

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

ATLANTIC VOCS - NON-CHLORINATED WATER (WATER)

BV Labs ID		PXB306	PXB310			
Sampling Date		2021/06/17	2021/06/17			
COC Number		827671-01-01	827671-01-01			
	UNITS	SH-5	SH-10	RDL	MDL	QC Batch
Volatile Organics						
Benzene	ug/L	<1.0	<1.0	1.0	N/A	7424245
Toluene	ug/L	<1.0	<1.0	1.0	N/A	7424245
Ethylbenzene	ug/L	<1.0	<1.0	1.0	N/A	7424245
p+m-Xylene	ug/L	<2.0	<2.0	2.0	N/A	7424245
o-Xylene	ug/L	<1.0	<1.0	1.0	N/A	7424245
Total Xylenes	ug/L	<1.0	<1.0	1.0	1.0	7424245
1,1-Dichloroethane	ug/L	<2.0	<2.0	2.0	N/A	7424245
1,1-Dichloroethylene	ug/L	<0.50	<0.50	0.50	1.0	7424245
1,1,1-Trichloroethane	ug/L	<1.0	<1.0	1.0	N/A	7424245
1,1,2-Trichloroethane	ug/L	<1.0	<1.0	1.0	N/A	7424245
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	N/A	7424245
Ethylene Dibromide	ug/L	<0.20	<0.20	0.20	0.50	7424245
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	N/A	7424245
1,2-Dichloroethane	ug/L	<1.0	<1.0	1.0	N/A	7424245
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	N/A	7424245
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	N/A	7424245
1,2-Dichloropropane	ug/L	<0.50	<0.50	0.50	N/A	7424245
1,3-Dichlorobenzene	ug/L	<1.0	<1.0	1.0	N/A	7424245
cis-1,3-Dichloropropene	ug/L	<0.50	<0.50	0.50	N/A	7424245
trans-1,3-Dichloropropene	ug/L	<0.50	<0.50	0.50	N/A	7424245
1,4-Dichlorobenzene	ug/L	<1.0	<1.0	1.0	N/A	7424245
Bromodichloromethane	ug/L	<1.0	<1.0	1.0	0.20	7424245
Bromoform	ug/L	<1.0	<1.0	1.0	0.20	7424245
Bromomethane	ug/L	<0.50	<0.50	0.50	N/A	7424245
Carbon Tetrachloride	ug/L	<0.50	<0.50	0.50	N/A	7424245
Chlorobenzene	ug/L	<1.0	<1.0	1.0	N/A	7424245
Chloroethane	ug/L	<8.0	<8.0	8.0	N/A	7424245
Chloroform	ug/L	<1.0	<1.0	1.0	0.20	7424245
Chloromethane	ug/L	<8.0	<8.0	8.0	N/A	7424245
Dibromochloromethane	ug/L	<1.0	<1.0	1.0	0.20	7424245
Methylene Chloride(Dichloromethane)	ug/L	<3.0	<3.0	3.0	N/A	7424245
Methyl t-butyl ether (MTBE)	ug/L	<2.0	<2.0	2.0	N/A	7424245
Styrene	ug/L	<1.0	<1.0	1.0	N/A	7424245
Tetrachloroethylene	ug/L	<1.0	<1.0	1.0	N/A	7424245
Trichloroethylene	ug/L	<1.0	<1.0	1.0	N/A	7424245
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
N/A = Not Applicable						



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

ATLANTIC VOCs - NON-CHLORINATED WATER (WATER)

BV Labs ID		PXB306	PXB310			
Sampling Date		2021/06/17	2021/06/17			
COC Number		827671-01-01	827671-01-01			
	UNITS	SH-5	SH-10	RDL	MDL	QC Batch
Trichlorofluoromethane (FREON 11)	ug/L	<8.0	<8.0	8.0	N/A	7424245
Vinyl Chloride	ug/L	<0.50	<0.50	0.50	2.0	7424245
Total Trihalomethanes	ug/L	<1.0	<1.0	1.0	N/A	7424245
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	97	98			7424245
D4-1,2-Dichloroethane	%	102	105			7424245
D8-Toluene	%	97	97			7424245
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
N/A = Not Applicable						



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

RESULTS OF ANALYSES OF WATER

BV Labs ID		PXB302		PXB303			PXB304				
Sampling Date		2021/06/17		2021/06/17			2021/06/17				
COC Number		827671-01-01		827671-01-01			827671-01-01				
	UNITS	SH-1	RDL	SH-2	RDL	MDL	QC Batch	SH-3	RDL	MDL	QC Batch

Inorganics

Total Chemical Oxygen Demand	mg/L	<20	20	<20	20	N/A	7426571	21	20	N/A	7426571
Total Kjeldahl Nitrogen (TKN)	mg/L	<0.10	0.10	0.15	0.10	0.060	7429739	5.4	0.20	0.12	7429739
Dissolved Organic Carbon (C)	mg/L	0.7	0.5	0.7	0.5	N/A	7429033	5.0	0.5	N/A	7429033
Phenols-4AAP	mg/L	<0.0010	0.0010	<0.0010	0.0010	0.00030	7429286	<0.0010	0.0010	0.00030	7429286
Total Phosphorus	mg/L	0.95	0.020	0.83	0.020	N/A	7424076	0.075	0.020	N/A	7424078
Total Suspended Solids	mg/L	310	17	98	10	N/A	7426582	42	5.0	N/A	7426582

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

BV Labs ID		PXB305			PXB305				
Sampling Date		2021/06/17			2021/06/17				
COC Number		827671-01-01			827671-01-01				
	UNITS	SH-4	RDL	MDL	QC Batch	SH-4 Lab-Dup	RDL	MDL	QC Batch

Total Chemical Oxygen Demand	mg/L	<20	20	N/A	7426571				
Total Kjeldahl Nitrogen (TKN)	mg/L	0.11	0.10	0.060	7429739				
Dissolved Organic Carbon (C)	mg/L	1.0	0.5	N/A	7429033				
Phenols-4AAP	mg/L	<0.0010	0.0010	0.00030	7429273				
Total Phosphorus	mg/L	0.091	0.020	N/A	7424078				
Total Suspended Solids	mg/L	92	10	N/A	7426582	94	10	N/A	7426582

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

RESULTS OF ANALYSES OF WATER

BV Labs ID		PXB306			PXB307		PXB308			
Sampling Date		2021/06/17			2021/06/18		2021/06/17			
COC Number		827671-01-01			827671-01-01		827671-01-01			
	UNITS	SH-5	RDL	QC Batch	SH-6	QC Batch	SH-8	RDL	MDL	QC Batch

Inorganics

Total Chemical Oxygen Demand	mg/L	<20	20	7426571	<20	7426571	<20	20	N/A	7426571
Total Kjeldahl Nitrogen (TKN)	mg/L	0.30	0.10	7429739	0.12	7429739	<0.10	0.10	0.060	7429739
Dissolved Organic Carbon (C)	mg/L	0.9	0.5	7429033	1.2	7429033	<0.5	0.5	N/A	7429033
Phenols-4AAP	mg/L	<0.0010	0.0010	7429286	<0.0010	7429286	<0.0010	0.0010	0.00030	7429273
Total Phosphorus	mg/L	0.13	0.020	7424078	0.089	7424078	0.045	0.020	N/A	7424078
Total Suspended Solids	mg/L	94	10	7426582	33	7427105	4.4	1.0	N/A	7426582

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

BV Labs ID		PXB309			PXB310			
Sampling Date		2021/06/17			2021/06/17			
COC Number		827671-01-01			827671-01-01			
	UNITS	SH-9	RDL	MDL	SH-10	RDL	MDL	QC Batch

Inorganics

Total Chemical Oxygen Demand	mg/L	<20	20	N/A	<20	20	N/A	7426571
Total Kjeldahl Nitrogen (TKN)	mg/L	3.4	0.10	0.060	2.4	0.20	0.12	7429739
Dissolved Organic Carbon (C)	mg/L	2.2	0.5	N/A	1.7	0.5	N/A	7429033
Phenols-4AAP	mg/L	<0.0010	0.0010	0.00030	<0.0010	0.0010	0.00030	7429286
Total Phosphorus	mg/L	0.19	0.020	N/A	0.062	0.020	N/A	7424078
Total Suspended Solids	mg/L	23	2.5	N/A	11	2.0	N/A	7426582

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

RESULTS OF ANALYSES OF WATER

BV Labs ID		PXB310			PXB311				
Sampling Date		2021/06/17			2021/06/17				
COC Number		827671-01-01			827671-01-01				
	UNITS	SH-10 Lab-Dup	RDL	MDL	QC Batch	SH-11	RDL	MDL	QC Batch

Inorganics

Total Chemical Oxygen Demand	mg/L					<20	20	N/A	7426571
Total Kjeldahl Nitrogen (TKN)	mg/L	2.4	0.20	0.12	7429739	<0.10	0.10	0.060	7429739
Dissolved Organic Carbon (C)	mg/L					<0.5	0.5	N/A	7429033
Phenols-4AAP	mg/L					<0.0010	0.0010	0.00030	7429286
Total Phosphorus	mg/L					0.18	0.020	N/A	7424078
Total Suspended Solids	mg/L					410	10	N/A	7426582

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

BV Labs ID		PXB312			PXB313				
Sampling Date		2021/06/18			2021/06/17				
COC Number		827671-02-01			827671-02-01				
	UNITS	SH-12	RDL	MDL	QC Batch	SH-13	RDL	MDL	QC Batch

Inorganics

Total Chemical Oxygen Demand	mg/L	<20	20	N/A	7426571	<20	20	N/A	7426571
Total Kjeldahl Nitrogen (TKN)	mg/L	<0.10	0.10	0.060	7429739	<0.20 (1)	0.20	0.12	7429739
Dissolved Organic Carbon (C)	mg/L	<0.5	0.5	N/A	7429033	0.7	0.5	N/A	7429053
Phenols-4AAP	mg/L	<0.0010	0.0010	0.00030	7429286	<0.0010	0.0010	0.00030	7429273
Total Phosphorus	mg/L	0.062	0.020	N/A	7424078	0.11	0.020	N/A	7424078
Total Suspended Solids	mg/L	66	2.5	N/A	7427105	48	2.5	N/A	7426582

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to a high concentration of NOx, the sample required dilution. The detection limit was adjusted accordingly.



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

RESULTS OF ANALYSES OF WATER

BV Labs ID		PXB314				PXB315	PXB316		
Sampling Date		2021/06/17				2021/06/17	2021/06/17		
COC Number		827671-02-01				827671-02-01	827671-02-01		
	UNITS	SH-14	RDL	MDL	QC Batch	SH-15	SH-16	RDL	MDL

Inorganics

Total Chemical Oxygen Demand	mg/L	<20	20	N/A	7426571	<20	<20	20	N/A	7426571
Total Kjeldahl Nitrogen (TKN)	mg/L	<0.20 (1)	0.20	0.12	7429564	<0.10	<0.10	0.10	0.060	7429739
Dissolved Organic Carbon (C)	mg/L	0.5	0.5	N/A	7429053	0.5	0.6	0.5	N/A	7429053
Phenols-4AAP	mg/L	<0.0010	0.0010	0.00030	7429286	<0.0010	<0.0010	0.0010	0.00030	7429286
Total Phosphorus	mg/L	0.15	0.020	N/A	7424078	0.29	0.16	0.020	N/A	7424078
Total Suspended Solids	mg/L	61	2.5	N/A	7426582	210	210	5.0	N/A	7426582

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to a high concentration of NOx, the sample required dilution. The detection limit was adjusted accordingly.

BV Labs ID		PXB317		PXB318				PXB318			
Sampling Date		2021/06/18		2021/06/18				2021/06/18			
COC Number		827671-02-01		827671-02-01				827671-02-01			
	UNITS	SH-17	RDL	SH-19	RDL	MDL	QC Batch	SH-19 Lab-Dup	RDL	MDL	QC Batch

Inorganics

Total Chemical Oxygen Demand	mg/L	<20	20	<20	20	N/A	7426571			
Total Kjeldahl Nitrogen (TKN)	mg/L	<0.10	0.10	<0.10	0.10	0.060	7429739			
Dissolved Organic Carbon (C)	mg/L	0.8	0.5	0.8	0.5	N/A	7429053			
Phenols-4AAP	mg/L	<0.0010	0.0010	<0.0010	0.0010	0.00030	7429286	<0.0010	0.0010	0.00030
Total Phosphorus	mg/L	0.12	0.020	0.11	0.020	N/A	7424078			
Total Suspended Solids	mg/L	190	5.0	14	2.0	N/A	7427105			

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

MERCURY BY COLD VAPOUR AA (WATER)

BV Labs ID		PXB302	PXB303	PXB304	PXB305	PXB306	PXB307			
Sampling Date		2021/06/17	2021/06/17	2021/06/17	2021/06/17	2021/06/17	2021/06/18			
COC Number		827671-01-01	827671-01-01	827671-01-01	827671-01-01	827671-01-01	827671-01-01			
	UNITS	SH-1	SH-2	SH-3	SH-4	SH-5	SH-6	RDL	MDL	QC Batch

Metals

Dissolved Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013	N/A	7429810
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

BV Labs ID		PXB308	PXB309	PXB310	PXB311	PXB312	PXB313			
Sampling Date		2021/06/17	2021/06/17	2021/06/17	2021/06/17	2021/06/18	2021/06/17			
COC Number		827671-01-01	827671-01-01	827671-01-01	827671-01-01	827671-02-01	827671-02-01			
	UNITS	SH-8	SH-9	SH-10	SH-11	SH-12	SH-13	RDL	MDL	QC Batch

Metals

Dissolved Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013	N/A	7429810
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable

BV Labs ID		PXB314	PXB314	PXB315	PXB316	PXB317	PXB318			
Sampling Date		2021/06/17	2021/06/17	2021/06/17	2021/06/17	2021/06/18	2021/06/18			
COC Number		827671-02-01	827671-02-01	827671-02-01	827671-02-01	827671-02-01	827671-02-01			
	UNITS	SH-14	SH-14 Lab-Dup	SH-15	SH-16	SH-17	SH-19	RDL	MDL	QC Batch

Metals

Dissolved Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.013	N/A	7429836
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

POLYCHLORINATED BIPHENYLS BY GC-ECD (WATER)

BV Labs ID		PXB306			PXB306				
Sampling Date		2021/06/17			2021/06/17				
COC Number		827671-01-01			827671-01-01				
	UNITS	SH-5	RDL	MDL	QC Batch	SH-5 Lab-Dup	RDL	MDL	QC Batch
PCBs									
Aroclor 1016	ug/L	<0.050	0.050	N/A	7426755	<0.054	0.054	N/A	7426755
Aroclor 1221	ug/L	<0.050	0.050	N/A	7426755	<0.054	0.054	N/A	7426755
Aroclor 1232	ug/L	<0.050	0.050	N/A	7426755	<0.054	0.054	N/A	7426755
Aroclor 1248	ug/L	<0.050	0.050	N/A	7426755	<0.054	0.054	N/A	7426755
Aroclor 1242	ug/L	<0.050	0.050	N/A	7426755	<0.054	0.054	N/A	7426755
Aroclor 1254	ug/L	<0.050	0.050	N/A	7426755	<0.054	0.054	N/A	7426755
Aroclor 1260	ug/L	<0.050	0.050	N/A	7426755	<0.054	0.054	N/A	7426755
Calculated Total PCB	ug/L	<0.050	0.050	N/A	7422690				
Surrogate Recovery (%)									
Decachlorobiphenyl	%	77 (1)			7426755	84 (2)			7426755
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Lab-Dup = Laboratory Initiated Duplicate									
N/A = Not Applicable									
(1) PCB sample contained sediment.									
(2) PCB sample contained sediment. Elevated PCB RDL due to limited sample.									

BV Labs ID		PXB310			
Sampling Date		2021/06/17			
COC Number		827671-01-01			
	UNITS	SH-10	RDL	MDL	QC Batch
PCBs					
Aroclor 1016	ug/L	<0.050	0.050	N/A	7426755
Aroclor 1221	ug/L	<0.050	0.050	N/A	7426755
Aroclor 1232	ug/L	<0.050	0.050	N/A	7426755
Aroclor 1248	ug/L	<0.050	0.050	N/A	7426755
Aroclor 1242	ug/L	<0.050	0.050	N/A	7426755
Aroclor 1254	ug/L	<0.050	0.050	N/A	7426755
Aroclor 1260	ug/L	<0.050	0.050	N/A	7426755
Calculated Total PCB	ug/L	<0.050	0.050	N/A	7422690
Surrogate Recovery (%)					
Decachlorobiphenyl	%	94			7426755
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
N/A = Not Applicable					

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

DIOXINS AND FURANS BY HRMS (WATER)

BV Labs ID		PXB306						
Sampling Date		2021/06/17						
COC Number		827671-01-01				TOXIC EQUIVALENCY	# of	
	UNITS	SH-5	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers QC Batch

Dioxins & Furans

2,3,7,8-Tetra CDD *	pg/L	<0.900	0.900	9.52	4.00	1.00	0.900	0 7461666
1,2,3,7,8-Penta CDD *	pg/L	<1.05	1.05	47.6	4.00	1.00	1.05	0 7461666
1,2,3,4,7,8-Hexa CDD *	pg/L	<0.872	0.872	47.6	4.00	0.100	0.0872	0 7461666
1,2,3,6,7,8-Hexa CDD *	pg/L	<0.766	0.766	47.6	4.00	0.100	0.0766	0 7461666
1,2,3,7,8,9-Hexa CDD *	pg/L	<0.813	0.813	47.6	4.00	0.100	0.0813	0 7461666
1,2,3,4,6,7,8-Hepta CDD *	pg/L	3.18	1.05	47.6	4.00	0.0100	0.0318	1 7461666
Octa CDD *	pg/L	7.76	1.23	95.2	8.00	0.000300	0.00233	1 7461666
Total Tetra CDD *	pg/L	<0.900	0.900	9.52	4.00			0 7461666
Total Penta CDD *	pg/L	<1.05	1.05	47.6	4.00			0 7461666
Total Hexa CDD *	pg/L	<0.815	0.815	47.6	4.00			0 7461666
Total Hepta CDD *	pg/L	3.18	1.05	47.6	4.00			1 7461666
2,3,7,8-Tetra CDF **	pg/L	<0.616	0.616	9.52	4.00	0.100	0.0616	0 7461666
1,2,3,7,8-Penta CDF **	pg/L	<1.21	1.21	47.6	4.00	0.0300	0.0363	0 7461666
2,3,4,7,8-Penta CDF **	pg/L	<0.937	0.937	47.6	4.00	0.300	0.281	0 7461666
1,2,3,4,7,8-Hexa CDF **	pg/L	<0.626	0.626	47.6	4.00	0.100	0.0626	0 7461666
1,2,3,6,7,8-Hexa CDF **	pg/L	<0.587	0.587	47.6	4.00	0.100	0.0587	0 7461666
2,3,4,6,7,8-Hexa CDF **	pg/L	<0.615	0.615	47.6	4.00	0.100	0.0615	0 7461666
1,2,3,7,8,9-Hexa CDF **	pg/L	<0.647	0.647	47.6	4.00	0.100	0.0647	0 7461666
1,2,3,4,6,7,8-Hepta CDF **	pg/L	<0.787 (1)	0.787	47.6	4.00	0.0100	0.00787	0 7461666
1,2,3,4,7,8,9-Hepta CDF **	pg/L	<1.08	1.08	47.6	4.00	0.0100	0.0108	0 7461666
Octa CDF **	pg/L	<0.913	0.913	95.2	8.00	0.000300	0.000274	0 7461666
Total Tetra CDF **	pg/L	<0.616	0.616	9.52	4.00			0 7461666
Total Penta CDF **	pg/L	<1.06	1.06	47.6	4.00			0 7461666
Total Hexa CDF **	pg/L	<0.618	0.618	47.6	4.00			0 7461666
Total Hepta CDF **	pg/L	<0.910	0.910	47.6	4.00			0 7461666
TOTAL TOXIC EQUIVALENCY	pg/L						2.87	

Surrogate Recovery (%)

37CL4 2378 Tetra CDD *	%	85						7461666
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EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

DIOXINS AND FURANS BY HRMS (WATER)

BV Labs ID		PXB306							
Sampling Date		2021/06/17							
COC Number		827671-01-01			TOXIC EQUIVALENCY		# of		
	UNITS	SH-5	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-1234678 HeptaCDD *	%	127							7461666
C13-1234678 HeptaCDF **	%	131							7461666
C13-123478 HexaCDD *	%	111							7461666
C13-123478 HexaCDF **	%	104							7461666
C13-1234789 HeptaCDF **	%	122							7461666
C13-123678 HexaCDD *	%	105							7461666
C13-123678 HexaCDF **	%	98							7461666
C13-12378 PentaCDD *	%	90							7461666
C13-12378 PentaCDF **	%	74							7461666
C13-123789 HexaCDF **	%	114							7461666
C13-234678 HexaCDF **	%	103							7461666
C13-23478 PentaCDF **	%	89							7461666
C13-2378 TetraCDD *	%	78							7461666
C13-2378 TetraCDF **	%	77							7461666
C13-OCDD *	%	149							7461666

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenz-p-Dioxin

** CDF = Chloro Dibenz-p-Furan



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

DIOXINS AND FURANS BY HRMS (WATER)

BV Labs ID		PXB310							
Sampling Date		2021/06/17							
COC Number		827671-01-01			TOXIC EQUIVALENCY		# of		
	UNITS	SH-10	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Dioxins & Furans									
2,3,7,8-Tetra CDD *	pg/L	<1.05	1.05	9.43	4.00	1.00	1.05	0	7461666
1,2,3,7,8-Penta CDD *	pg/L	<1.11	1.11	47.2	4.00	1.00	1.11	0	7461666
1,2,3,4,7,8-Hexa CDD *	pg/L	<1.13	1.13	47.2	4.00	0.100	0.113	0	7461666
1,2,3,6,7,8-Hexa CDD *	pg/L	<1.03	1.03	47.2	4.00	0.100	0.103	0	7461666
1,2,3,7,8,9-Hexa CDD *	pg/L	<1.04	1.04	47.2	4.00	0.100	0.104	0	7461666
1,2,3,4,6,7,8-Hepta CDD *	pg/L	<1.12	1.12	47.2	4.00	0.0100	0.0112	0	7461666
Octa CDD *	pg/L	4.19	1.02	94.3	8.00	0.000300	0.00126	1	7461666
Total Tetra CDD *	pg/L	<1.05	1.05	9.43	4.00			0	7461666
Total Penta CDD *	pg/L	<1.11	1.11	47.2	4.00			0	7461666
Total Hexa CDD *	pg/L	<1.07	1.07	47.2	4.00			0	7461666
Total Hepta CDD *	pg/L	<1.11	1.11	47.2	4.00			0	7461666
2,3,7,8-Tetra CDF **	pg/L	<1.02	1.02	9.43	4.00	0.100	0.102	0	7461666
1,2,3,7,8-Penta CDF **	pg/L	<1.36	1.36	47.2	4.00	0.0300	0.0408	0	7461666
2,3,4,7,8-Penta CDF **	pg/L	<1.05	1.05	47.2	4.00	0.300	0.315	0	7461666
1,2,3,4,7,8-Hexa CDF **	pg/L	<0.702	0.702	47.2	4.00	0.100	0.0702	0	7461666
1,2,3,6,7,8-Hexa CDF **	pg/L	<0.656	0.656	47.2	4.00	0.100	0.0656	0	7461666
2,3,4,6,7,8-Hexa CDF **	pg/L	<0.678	0.678	47.2	4.00	0.100	0.0678	0	7461666
1,2,3,7,8,9-Hexa CDF **	pg/L	<0.731	0.731	47.2	4.00	0.100	0.0731	0	7461666
1,2,3,4,6,7,8-Hepta CDF **	pg/L	<1.03	1.03	47.2	4.00	0.0100	0.0103	0	7461666
1,2,3,4,7,8,9-Hepta CDF **	pg/L	<1.41	1.41	47.2	4.00	0.0100	0.0141	0	7461666
Octa CDF **	pg/L	<1.02	1.02	94.3	8.00	0.000300	0.000306	0	7461666
Total Tetra CDF **	pg/L	<1.02	1.02	9.43	4.00			0	7461666
Total Penta CDF **	pg/L	<1.19	1.19	47.2	4.00			0	7461666
Total Hexa CDF **	pg/L	<0.690	0.690	47.2	4.00			0	7461666
Total Hepta CDF **	pg/L	<1.20	1.20	47.2	4.00			0	7461666
TOTAL TOXIC EQUIVALENCY	pg/L						3.25		
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	66							7461666

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

** CDF = Chloro Dibenzo-p-Furan



BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

DIOXINS AND FURANS BY HRMS (WATER)

BV Labs ID		PXB310							
Sampling Date		2021/06/17							
COC Number		827671-01-01			TOXIC EQUIVALENCY		# of		
	UNITS	SH-10	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-1234678 HeptaCDD *	%	95							7461666
C13-1234678 HeptaCDF **	%	99							7461666
C13-123478 HexaCDD *	%	83							7461666
C13-123478 HexaCDF **	%	78							7461666
C13-1234789 HeptaCDF **	%	87							7461666
C13-123678 HexaCDD *	%	81							7461666
C13-123678 HexaCDF **	%	76							7461666
C13-12378 PentaCDD *	%	73							7461666
C13-12378 PentaCDF **	%	60							7461666
C13-123789 HexaCDF **	%	82							7461666
C13-234678 HexaCDF **	%	79							7461666
C13-23478 PentaCDF **	%	72							7461666
C13-2378 TetraCDD *	%	66							7461666
C13-2378 TetraCDF **	%	68							7461666
C13-OCDD *	%	105							7461666

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,

The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenz-p-Dioxin

** CDF = Chloro Dibenz-p-Furan

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB302
Sample ID: SH-1
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7421565	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7426497	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7421568	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7421569	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7421570	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426774	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7421572	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426498	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7421575	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421576	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7421578	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432667	N/A	2021/06/28	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424076	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB303
Sample ID: SH-2
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7421565	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7426497	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7421568	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7421569	N/A	2021/06/29	Automated Statchk

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB303
Sample ID: SH-2
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Anion and Cation Sum	CALC	7421570	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426774	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422687	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426498	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7421575	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421576	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7421578	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432667	N/A	2021/06/28	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424076	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB304
Sample ID: SH-3
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7421565	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7421569	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7421570	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426774	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7421575	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421576	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey



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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB304
Sample ID: SH-3
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7421578	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432667	N/A	2021/06/28	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB305
Sample ID: SH-4
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7421565	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7421569	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7421570	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426774	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422687	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429273	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7421575	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421576	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7421578	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432667	N/A	2021/06/28	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB305 Dup
Sample ID: SH-4
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore

BV Labs ID: PXB306
Sample ID: SH-5
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7421565	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Dioxins/Furans in Water (1613B)	HRMS/MS	7461666	2021/07/14	2021/07/18	Cathy Xu
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7421569	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7421570	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426774	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
PCBs in water by GC/ECD	GC/ECD	7426755	2021/06/24	2021/06/28	Ryan Greenham
PCB Aroclor sum (water)	CALC	7422690	N/A	2021/06/28	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7421575	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421576	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7421578	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432667	N/A	2021/06/28	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway
Volatile Organic Compounds in Water	HS/MS	7424245	N/A	2021/06/24	Amanda Swales

BUREAU
VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB306 Dup
Sample ID: SH-5
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PCBs in water by GC/ECD	GC/ECD	7426755	2021/06/24	2021/06/28	Ryan Greenham

BV Labs ID: PXB307
Sample ID: SH-6
Matrix: Water

Collected: 2021/06/18
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7421565	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7421569	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7421570	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426806	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7421575	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421576	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7421578	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432667	N/A	2021/06/28	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7427105	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB308
Sample ID: SH-8
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7421565	N/A	2021/06/28	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB308
Sample ID: SH-8
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7432616	N/A	2021/06/28	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/28	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7421569	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7421570	N/A	2021/06/28	Automated Statchk
Nitrogen Ammonia - water	KONE	7426806	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429273	N/A	2021/06/25	Deonarine Rammarine
pH	AT	7432620	N/A	2021/06/28	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7421575	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421576	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7421578	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432667	N/A	2021/06/28	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB308 Dup
Sample ID: SH-8
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc

BV Labs ID: PXB309
Sample ID: SH-9
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7421565	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB309
Sample ID: SH-9
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7421569	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7421570	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426806	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7421575	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421576	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7421578	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432667	N/A	2021/06/28	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB310
Sample ID: SH-10
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7422674	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Dioxins/Furans in Water (1613B)	HRMS/MS	7461666	2021/07/14	2021/07/18	Cathy Xu
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7422680	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7422684	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426806	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
PCBs in water by GC/ECD	GC/ECD	7426755	2021/06/24	2021/06/28	Ryan Greenham
PCB Aroclor sum (water)	CALC	7422690	N/A	2021/06/28	Automated Statchk

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB310
Sample ID: SH-10
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7422693	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7422696	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7422698	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432667	N/A	2021/06/28	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway
Volatile Organic Compounds in Water	HS/MS	7424245	N/A	2021/06/24	Amanda Swales

BV Labs ID: PXB310 Dup
Sample ID: SH-10
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan

BV Labs ID: PXB311
Sample ID: SH-11
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7422674	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7422682	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7422684	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426806	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB311
Sample ID: SH-11
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	7422695	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7422696	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7422700	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432675	N/A	2021/06/29	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB311 Dup
Sample ID: SH-11
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB312
Sample ID: SH-12
Matrix: Water

Collected: 2021/06/18
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7422674	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429077	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429079	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429083	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429033	N/A	2021/06/26	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7422682	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7422684	N/A	2021/06/29	Automated Statchk
Nitrogen Ammonia - water	KONE	7429401	N/A	2021/06/28	Emily Matheson
Nitrogen - Nitrate + Nitrite	KONE	7429085	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429088	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429084	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7422695	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7422696	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429081	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429080	N/A	2021/06/28	Mary Clancey

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB312
Sample ID: SH-12
Matrix: Water

Collected: 2021/06/18
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Dissolved Solids (TDS calc)	CALC	7422700	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432675	N/A	2021/06/29	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7427105	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB312 Dup
Sample ID: SH-12
Matrix: Water

Collected: 2021/06/18
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrogen Ammonia - water	KONE	7429401	N/A	2021/06/28	Emily Matheson

BV Labs ID: PXB313
Sample ID: SH-13
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7422674	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429093	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429101	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429109	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429053	N/A	2021/06/27	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429810	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7422682	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7422684	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426806	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429115	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429117	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429273	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429112	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7422695	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7422696	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429107	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429103	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7422700	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/29	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432675	N/A	2021/06/29	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB313
Sample ID: SH-13
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB314
Sample ID: SH-14
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7422674	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429093	N/A	2021/06/29	Mary Clancey
Chloride	KONE	7429101	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429109	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429053	N/A	2021/06/27	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429836	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7422682	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7422684	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426806	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429115	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429117	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429112	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7422695	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7422696	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429107	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429103	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7422700	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429564	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432675	N/A	2021/06/29	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB314 Dup
Sample ID: SH-14
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury - Dissolved (CVAA,LL)	CV/AA	7429836	2021/06/28	2021/06/28	Nicholas Hutchinson

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB315
Sample ID: SH-15
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7422674	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429093	N/A	2021/06/29	Mary Clancey
Chloride	KONE	7429101	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429109	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429053	N/A	2021/06/27	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429836	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7422682	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7422684	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426806	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429115	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429117	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429112	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7422695	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7422696	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429107	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429103	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7422700	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432675	N/A	2021/06/29	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7426551	N/A	2021/06/24	Savannah Hatheway

BV Labs ID: PXB316
Sample ID: SH-16
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7422674	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429093	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429101	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429109	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429053	N/A	2021/06/27	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429836	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7422682	N/A	2021/06/29	Automated Statchk

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB316
Sample ID: SH-16
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Anion and Cation Sum	CALC	7422684	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426806	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429115	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429117	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429112	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7422695	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7422696	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429107	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429103	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7422700	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432663	N/A	2021/06/28	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7426582	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7424084	N/A	2021/06/23	Savannah Hatheway

BV Labs ID: PXB316 Dup
Sample ID: SH-16
Matrix: Water

Collected: 2021/06/17
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Organic carbon - Total (TOC)	TOCV/NDIR	7432663	N/A	2021/06/28	Nachiketa Gohil

BV Labs ID: PXB317
Sample ID: SH-17
Matrix: Water

Collected: 2021/06/18
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7422674	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429185	N/A	2021/06/28	Emily Matheson
Chloride	KONE	7429186	N/A	2021/06/28	Emily Matheson
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429190	N/A	2021/06/29	Emily Matheson
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429053	N/A	2021/06/27	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429836	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc
Ion Balance (% Difference)	CALC	7422682	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7422684	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426748	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429193	N/A	2021/06/28	Emily Matheson
Nitrogen - Nitrite	KONE	7429197	N/A	2021/06/28	Emily Matheson

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VERITAS

BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB317
Sample ID: SH-17
Matrix: Water

Collected: 2021/06/18
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429191	N/A	2021/06/28	Emily Matheson
Sat. pH and Langelier Index (@ 20C)	CALC	7422695	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7422696	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429189	N/A	2021/06/28	Emily Matheson
Sulphate	KONE	7429188	N/A	2021/06/28	Emily Matheson
Total Dissolved Solids (TDS calc)	CALC	7422700	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432675	N/A	2021/06/29	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7427105	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7424084	N/A	2021/06/23	Savannah Hatheway

BV Labs ID: PXB317 Dup
Sample ID: SH-17
Matrix: Water

Collected: 2021/06/18
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	KONE	7429185	N/A	2021/06/28	Emily Matheson
Chloride	KONE	7429186	N/A	2021/06/28	Emily Matheson
Colour	KONE	7429190	N/A	2021/06/29	Emily Matheson
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Nitrogen - Nitrate + Nitrite	KONE	7429193	N/A	2021/06/28	Emily Matheson
Nitrogen - Nitrite	KONE	7429197	N/A	2021/06/28	Emily Matheson
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429191	N/A	2021/06/28	Emily Matheson
Reactive Silica	KONE	7429189	N/A	2021/06/28	Emily Matheson
Sulphate	KONE	7429188	N/A	2021/06/28	Emily Matheson

BV Labs ID: PXB318
Sample ID: SH-19
Matrix: Water

Collected: 2021/06/18
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7422674	N/A	2021/06/24	Automated Statchk
Alkalinity	KONE	7429093	N/A	2021/06/28	Mary Clancey
Chloride	KONE	7429101	N/A	2021/06/28	Mary Clancey
Chemical Oxygen Demand (COD)	SPEC	7426571	2021/06/24	2021/06/24	Zanxin Zhou
Colour	KONE	7429109	N/A	2021/06/28	Mary Clancey
Organic carbon - Diss (DOC) (as rec'd)	TOCV/NDIR	7429053	N/A	2021/06/27	Kevin MacDonald
Conductance - water	AT	7426500	N/A	2021/06/24	Savannah Hatheway
Hardness (calculated as CaCO ₃)		7422679	N/A	2021/06/25	Automated Statchk
Mercury - Dissolved (CVAA,LL)	CV/AA	7429836	2021/06/28	2021/06/28	Nicholas Hutchinson
Metals Water Diss. MS (as rec'd)	CICP/MS	7426808	N/A	2021/06/25	Mike Leblanc



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BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

TEST SUMMARY

BV Labs ID: PXB318
Sample ID: SH-19
Matrix: Water

Collected: 2021/06/18
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Ion Balance (% Difference)	CALC	7422682	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7422684	N/A	2021/06/25	Automated Statchk
Nitrogen Ammonia - water	KONE	7426806	N/A	2021/06/24	Mary Clancey
Nitrogen - Nitrate + Nitrite	KONE	7429115	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrite	KONE	7429117	N/A	2021/06/28	Mary Clancey
Nitrogen - Nitrate (as N)	CALC	7422689	N/A	2021/06/29	Automated Statchk
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine
pH	AT	7426504	N/A	2021/06/24	Savannah Hatheway
Phosphorus - ortho	KONE	7429112	N/A	2021/06/28	Mary Clancey
Sat. pH and Langelier Index (@ 20C)	CALC	7422695	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7422696	N/A	2021/06/29	Automated Statchk
Reactive Silica	KONE	7429107	N/A	2021/06/28	Mary Clancey
Sulphate	KONE	7429103	N/A	2021/06/28	Mary Clancey
Total Dissolved Solids (TDS calc)	CALC	7422700	N/A	2021/06/29	Automated Statchk
Total Kjeldahl Nitrogen in Water	SKAL	7429739	2021/06/25	2021/06/25	Massarat Jan
Organic carbon - Total (TOC)	TOCV/NDIR	7432675	N/A	2021/06/29	Nachiketa Gohil
Phosphorus Total Colourimetry	KONE	7424078	2021/06/23	2021/06/24	Mary Clancey
Total Suspended Solids	BAL	7427105	2021/06/24	2021/06/28	Andrea Moore
Turbidity	TURB	7424084	N/A	2021/06/23	Savannah Hatheway

BV Labs ID: PXB318 Dup
Sample ID: SH-19
Matrix: Water

Collected: 2021/06/18
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Phenols (4AAP)	TECH/PHEN	7429286	N/A	2021/06/25	Deonarine Ramnarine



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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.0°C
Package 2	2.0°C
Package 3	1.7°C
Package 4	2.7°C

Sample PXB302 [SH-1] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.
NH4 vs TKN: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample PXB303 [SH-2] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample PXB305 [SH-4] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample PXB306 [SH-5] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample PXB307 [SH-6] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample PXB308 [SH-8] : ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.
NH4 vs TKN: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample PXB309 [SH-9] : COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample PXB310 [SH-10] : ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent. COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample PXB311 [SH-11] : NH4 vs TKN: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample PXB312 [SH-12] : RCAP Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.
NH4 vs TKN: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample PXB313 [SH-13] : ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.NH4 vs TKN: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample PXB314 [SH-14] : ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.NH4 vs TKN: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample PXB315 [SH-15] : ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.NH4 vs TKN: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample PXB316 [SH-16] : ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.NH4 vs TKN: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample PXB317 [SH-17] : ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.NH4 vs TKN: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample PXB318 [SH-19] : NH4 vs TKN: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. COD < TOC: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Results relate only to the items tested.



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BV Labs Job #: C1H1486

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Stantec Consulting Ltd

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Sampler Initials: RM



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BV Labs Job #: C1H1486
Report Date: 2021/07/21

QUALITY ASSURANCE REPORT

Stantec Consulting Ltd
Client Project #: 121431175.200.203
Sampler Initials: RM

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7424245	4-Bromofluorobenzene	2021/06/24	97	70 - 130	99	70 - 130	101	%				
7424245	D4-1,2-Dichloroethane	2021/06/24	103	70 - 130	99	70 - 130	99	%				
7424245	D8-Toluene	2021/06/24	93	70 - 130	93	70 - 130	98	%				
7426755	Decachlorobiphenyl	2021/06/28	88	30 - 130	74	30 - 130	70	%				
7461666	37CL4 2378 Tetra CDD	2021/07/18			83	35 - 197	89	%				
7461666	C13-1234678 HeptaCDD	2021/07/18			135	23 - 140	125	%				
7461666	C13-1234678 HeptaCDF	2021/07/18			136	28 - 143	130	%				
7461666	C13-123478 HexaCDD	2021/07/18			113	32 - 141	105	%				
7461666	C13-123478 HexaCDF	2021/07/18			109	26 - 152	102	%				
7461666	C13-1234789 HeptaCDF	2021/07/18			125	28 - 138	119	%				
7461666	C13-123678 HexaCDD	2021/07/18			114	28 - 130	111	%				
7461666	C13-123678 HexaCDF	2021/07/18			101	26 - 123	97	%				
7461666	C13-12378 PentaCDD	2021/07/18			101	25 - 181	90	%				
7461666	C13-12378 PentaCDF	2021/07/18			81	24 - 185	78	%				
7461666	C13-123789 HexaCDF	2021/07/18			115	29 - 147	110	%				
7461666	C13-234678 HexaCDF	2021/07/18			109	28 - 136	103	%				
7461666	C13-23478 PentaCDF	2021/07/18			98	21 - 178	91	%				
7461666	C13-2378 TetraCDD	2021/07/18			82	25 - 164	90	%				
7461666	C13-2378 TetraCDF	2021/07/18			82	24 - 169	91	%				
7461666	C13-OCDD	2021/07/18			161 (2)	17 - 157	148	%				
7424076	Total Phosphorus	2021/06/24	NC	80 - 120	102	80 - 120	<0.020	mg/L	1.6	25		
7424078	Total Phosphorus	2021/06/24	102	80 - 120	96	80 - 120	<0.020	mg/L	NC	25		
7424084	Turbidity	2021/06/23			103	80 - 120	<0.10	NTU	11	20	104	80 - 120
7424245	1,1,1-Trichloroethane	2021/06/24	107	70 - 130	108	70 - 130	<1.0	ug/L	NC	40		
7424245	1,1,2,2-Tetrachloroethane	2021/06/24	99	70 - 130	97	70 - 130	<0.50	ug/L	NC	40		
7424245	1,1,2-Trichloroethane	2021/06/24	107	70 - 130	103	70 - 130	<1.0	ug/L	NC	40		
7424245	1,1-Dichloroethane	2021/06/24	105	70 - 130	104	70 - 130	<2.0	ug/L	NC	40		
7424245	1,1-Dichloroethylene	2021/06/24	105	70 - 130	106	70 - 130	<0.50	ug/L	NC	40		
7424245	1,2-Dichlorobenzene	2021/06/24	94	70 - 130	94	70 - 130	<0.50	ug/L	NC	40		
7424245	1,2-Dichloroethane	2021/06/24	94	70 - 130	90	70 - 130	<1.0	ug/L	NC	40		
7424245	1,2-Dichloropropane	2021/06/24	102	70 - 130	100	70 - 130	<0.50	ug/L	NC	40		
7424245	1,3-Dichlorobenzene	2021/06/24	95	70 - 130	97	70 - 130	<1.0	ug/L	NC	40		



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BV Labs Job #: C1H1486
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QUALITY ASSURANCE REPORT(CONT'D)

Stantec Consulting Ltd
Client Project #: 121431175.200.203
Sampler Initials: RM

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7424245	1,4-Dichlorobenzene	2021/06/24	94	70 - 130	95	70 - 130	<1.0	ug/L	NC	40		
7424245	Benzene	2021/06/24	100	70 - 130	100	70 - 130	<1.0	ug/L	NC	40		
7424245	Bromodichloromethane	2021/06/24	100	70 - 130	97	70 - 130	<1.0	ug/L	NC	40		
7424245	Bromoform	2021/06/24	102	70 - 130	100	70 - 130	<1.0	ug/L	NC	40		
7424245	Bromomethane	2021/06/24	108	60 - 140	107	60 - 140	<0.50	ug/L	NC	40		
7424245	Carbon Tetrachloride	2021/06/24	96	70 - 130	97	70 - 130	<0.50	ug/L	NC	40		
7424245	Chlorobenzene	2021/06/24	94	70 - 130	96	70 - 130	<1.0	ug/L	NC	40		
7424245	Chloroethane	2021/06/24	100	60 - 140	100	60 - 140	<8.0	ug/L	NC	40		
7424245	Chloroform	2021/06/24	104	70 - 130	103	70 - 130	<1.0	ug/L	NC	40		
7424245	Chloromethane	2021/06/24	101	60 - 140	100	60 - 140	<8.0	ug/L	NC	40		
7424245	cis-1,2-Dichloroethylene	2021/06/24	104	70 - 130	102	70 - 130	<0.50	ug/L	NC	40		
7424245	cis-1,3-Dichloropropene	2021/06/24	104	70 - 130	102	70 - 130	<0.50	ug/L	NC	40		
7424245	Dibromochloromethane	2021/06/24	95	70 - 130	91	70 - 130	<1.0	ug/L	NC	40		
7424245	Ethylbenzene	2021/06/24	93	70 - 130	97	70 - 130	<1.0	ug/L	NC	40		
7424245	Ethylene Dibromide	2021/06/24	107	70 - 130	101	70 - 130	<0.20	ug/L	NC	40		
7424245	Methyl t-butyl ether (MTBE)	2021/06/24	107	70 - 130	104	70 - 130	<2.0	ug/L				
7424245	Methylene Chloride(Dichloromethane)	2021/06/24	106	70 - 130	102	70 - 130	<3.0	ug/L	NC	40		
7424245	o-Xylene	2021/06/24	96	70 - 130	100	70 - 130	<1.0	ug/L	NC	40		
7424245	p+m-Xylene	2021/06/24	92	70 - 130	96	70 - 130	<2.0	ug/L	NC	40		
7424245	Styrene	2021/06/24	101	70 - 130	104	70 - 130	<1.0	ug/L	NC	40		
7424245	Tetrachloroethylene	2021/06/24	95	70 - 130	96	70 - 130	<1.0	ug/L	NC	40		
7424245	Toluene	2021/06/24	96	70 - 130	97	70 - 130	<1.0	ug/L	NC	40		
7424245	Total Trihalomethanes	2021/06/24					<1.0	ug/L				
7424245	Total Xylenes	2021/06/24					<1.0	ug/L				
7424245	trans-1,2-Dichloroethylene	2021/06/24	105	70 - 130	105	70 - 130	<0.50	ug/L	NC	40		
7424245	trans-1,3-Dichloropropene	2021/06/24	116	70 - 130	113	70 - 130	<0.50	ug/L	NC	40		
7424245	Trichloroethylene	2021/06/24	94	70 - 130	95	70 - 130	<1.0	ug/L	NC	40		
7424245	Trichlorofluoromethane (FREON 11)	2021/06/24	93	60 - 140	94	60 - 140	<8.0	ug/L	NC	40		
7424245	Vinyl Chloride	2021/06/24	113	60 - 140	101	60 - 140	<0.50	ug/L	NC	40		
7426497	Conductivity	2021/06/24			102	80 - 120	<1.0	uS/cm	1.8	10		
7426498	pH	2021/06/24			100	97 - 103			0.49	N/A		
7426500	Conductivity	2021/06/24			101	80 - 120	<1.0	uS/cm	1.5	10		



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BV Labs Job #: C1H1486
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QUALITY ASSURANCE REPORT(CONT'D)

Stantec Consulting Ltd
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Sampler Initials: RM

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7426504	pH	2021/06/24			100	97 - 103			2.1	N/A		
7426551	Turbidity	2021/06/24			104	80 - 120	<0.10	NTU	2.6	20	99	80 - 120
7426571	Total Chemical Oxygen Demand	2021/06/24	104	80 - 120	105	80 - 120	<20	mg/L	NC	25	99	80 - 120
7426582	Total Suspended Solids	2021/06/28					<1.0	mg/L	2.2	20	98	80 - 120
7426748	Nitrogen (Ammonia Nitrogen)	2021/06/24	98	80 - 120	102	80 - 120	<0.050	mg/L	0.95	20		
7426755	Aroclor 1016	2021/06/28					<0.050	ug/L	NC	40		
7426755	Aroclor 1221	2021/06/28					<0.050	ug/L	NC	40		
7426755	Aroclor 1232	2021/06/28					<0.050	ug/L	NC	40		
7426755	Aroclor 1242	2021/06/28					<0.050	ug/L	NC	40		
7426755	Aroclor 1248	2021/06/28					<0.050	ug/L	NC	40		
7426755	Aroclor 1254	2021/06/28	99	70 - 130	86	70 - 130	<0.050	ug/L	NC	40		
7426755	Aroclor 1260	2021/06/28					<0.050	ug/L	NC	40		
7426774	Nitrogen (Ammonia Nitrogen)	2021/06/24	85	80 - 120	102	80 - 120	<0.050	mg/L	16	20		
7426806	Nitrogen (Ammonia Nitrogen)	2021/06/24	98	80 - 120	102	80 - 120	<0.050	mg/L	NC	20		
7426808	Dissolved Aluminum (Al)	2021/06/25	102	80 - 120	104	80 - 120	<5.0	ug/L	1.3	20		
7426808	Dissolved Antimony (Sb)	2021/06/25	104	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
7426808	Dissolved Arsenic (As)	2021/06/25	93	80 - 120	92	80 - 120	<1.0	ug/L	7.1	20		
7426808	Dissolved Barium (Ba)	2021/06/25	NC	80 - 120	99	80 - 120	<1.0	ug/L	1.5	20		
7426808	Dissolved Beryllium (Be)	2021/06/25	99	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
7426808	Dissolved Bismuth (Bi)	2021/06/25	96	80 - 120	100	80 - 120	<2.0	ug/L	NC	20		
7426808	Dissolved Boron (B)	2021/06/25	96	80 - 120	95	80 - 120	<50	ug/L	NC	20		
7426808	Dissolved Cadmium (Cd)	2021/06/25	99	80 - 120	98	80 - 120	<0.010	ug/L	NC	20		
7426808	Dissolved Calcium (Ca)	2021/06/25	NC	80 - 120	93	80 - 120	<100	ug/L	0.65	20		
7426808	Dissolved Chromium (Cr)	2021/06/25	93	80 - 120	94	80 - 120	<1.0	ug/L	NC	20		
7426808	Dissolved Cobalt (Co)	2021/06/25	95	80 - 120	97	80 - 120	<0.40	ug/L	NC	20		
7426808	Dissolved Copper (Cu)	2021/06/25	95	80 - 120	96	80 - 120	<0.50	ug/L	NC	20		
7426808	Dissolved Iron (Fe)	2021/06/25	97	80 - 120	98	80 - 120	<50	ug/L	NC	20		
7426808	Dissolved Lead (Pb)	2021/06/25	98	80 - 120	99	80 - 120	<0.50	ug/L	NC	20		
7426808	Dissolved Magnesium (Mg)	2021/06/25	NC	80 - 120	100	80 - 120	<100	ug/L	0.56	20		
7426808	Dissolved Manganese (Mn)	2021/06/25	98	80 - 120	99	80 - 120	<2.0	ug/L	0.42	20		
7426808	Dissolved Molybdenum (Mo)	2021/06/25	105	80 - 120	101	80 - 120	<2.0	ug/L	NC	20		
7426808	Dissolved Nickel (Ni)	2021/06/25	95	80 - 120	97	80 - 120	<2.0	ug/L	NC	20		



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BV Labs Job #: C1H1486
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QUALITY ASSURANCE REPORT(CONT'D)

Stantec Consulting Ltd
Client Project #: 121431175.200.203
Sampler Initials: RM

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7426808	Dissolved Phosphorus (P)	2021/06/25	102	80 - 120	101	80 - 120	<100	ug/L	NC	20		
7426808	Dissolved Potassium (K)	2021/06/25	97	80 - 120	98	80 - 120	<100	ug/L	1.0	20		
7426808	Dissolved Selenium (Se)	2021/06/25	97	80 - 120	96	80 - 120	<0.50	ug/L	NC	20		
7426808	Dissolved Silver (Ag)	2021/06/25	99	80 - 120	96	80 - 120	<0.10	ug/L	NC	20		
7426808	Dissolved Sodium (Na)	2021/06/25	96	80 - 120	99	80 - 120	<100	ug/L	2.6	20		
7426808	Dissolved Strontium (Sr)	2021/06/25	NC	80 - 120	96	80 - 120	<2.0	ug/L	1.9	20		
7426808	Dissolved Thallium (Tl)	2021/06/25	99	80 - 120	101	80 - 120	<0.10	ug/L	NC	20		
7426808	Dissolved Tin (Sn)	2021/06/25	101	80 - 120	101	80 - 120	<2.0	ug/L	NC	20		
7426808	Dissolved Titanium (Ti)	2021/06/25	98	80 - 120	97	80 - 120	<2.0	ug/L	NC	20		
7426808	Dissolved Uranium (U)	2021/06/25	101	80 - 120	101	80 - 120	<0.10	ug/L	0.091	20		
7426808	Dissolved Vanadium (V)	2021/06/25	98	80 - 120	99	80 - 120	<2.0	ug/L	9.2	20		
7426808	Dissolved Zinc (Zn)	2021/06/25	96	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
7427105	Total Suspended Solids	2021/06/28					<1.0	mg/L	7.7	20	97	80 - 120
7429033	Dissolved Organic Carbon (C)	2021/06/26	99	85 - 115	103	80 - 120	<0.5	mg/L	0.20	15		
7429053	Dissolved Organic Carbon (C)	2021/06/27	92	85 - 115	99	80 - 120	<0.5	mg/L	3.2	15		
7429077	Total Alkalinity (Total as CaCO3)	2021/06/28	NC	80 - 120	111	80 - 120	<5.0	mg/L	1.0	20		
7429079	Dissolved Chloride (Cl-)	2021/06/28	101	80 - 120	101	80 - 120	<1.0	mg/L	4.9	20		
7429080	Dissolved Sulphate (SO4)	2021/06/28	110	80 - 120	112	80 - 120	<2.0	mg/L	5.5	20		
7429081	Reactive Silica (SiO2)	2021/06/28	92	80 - 120	97	80 - 120	<0.50	mg/L	1.8	20		
7429083	Colour	2021/06/28			106	80 - 120	<5.0	TCU	NC	20		
7429084	Orthophosphate (P)	2021/06/28	94	80 - 120	94	80 - 120	<0.010	mg/L	NC	20		
7429085	Nitrate + Nitrite (N)	2021/06/28	90	80 - 120	85	80 - 120	<0.050	mg/L	1.1	20		
7429088	Nitrite (N)	2021/06/28	92	80 - 120	100	80 - 120	<0.010	mg/L	NC	20		
7429093	Total Alkalinity (Total as CaCO3)	2021/06/28	NC	80 - 120	108	80 - 120	<5.0	mg/L	1.6	20		
7429101	Dissolved Chloride (Cl-)	2021/06/28	100	80 - 120	101	80 - 120	<1.0	mg/L	0.24	20		
7429103	Dissolved Sulphate (SO4)	2021/06/28	NC	80 - 120	111	80 - 120	<2.0	mg/L	0.38	20		
7429107	Reactive Silica (SiO2)	2021/06/28	90	80 - 120	95	80 - 120	<0.50	mg/L	6.4	20		
7429109	Colour	2021/06/28			107	80 - 120	<5.0	TCU	4.7	20		
7429112	Orthophosphate (P)	2021/06/28	86	80 - 120	99	80 - 120	<0.010	mg/L	NC	20		
7429115	Nitrate + Nitrite (N)	2021/06/28	93	80 - 120	98	80 - 120	<0.050	mg/L	NC	20		
7429117	Nitrite (N)	2021/06/28	89	80 - 120	101	80 - 120	<0.010	mg/L	NC	20		
7429185	Total Alkalinity (Total as CaCO3)	2021/06/28	NC	80 - 120	103	80 - 120	<5.0	mg/L	0.29	20		



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QUALITY ASSURANCE REPORT(CONT'D)

Stantec Consulting Ltd
Client Project #: 121431175.200.203
Sampler Initials: RM

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7429186	Dissolved Chloride (Cl-)	2021/06/28	99	80 - 120	100	80 - 120	<1.0	mg/L	1.1	20		
7429188	Dissolved Sulphate (SO4)	2021/06/28	111	80 - 120	111	80 - 120	<2.0	mg/L	8.9	20		
7429189	Reactive Silica (SiO2)	2021/06/28	92	80 - 120	93	80 - 120	<0.50	mg/L	0.57	20		
7429190	Colour	2021/06/29			94	80 - 120	<5.0	TCU	NC	20		
7429191	Orthophosphate (P)	2021/06/28	90	80 - 120	97	80 - 120	<0.010	mg/L	3.1	20		
7429193	Nitrate + Nitrite (N)	2021/06/28	96	80 - 120	95	80 - 120	<0.050	mg/L	1.5	20		
7429197	Nitrite (N)	2021/06/28	96	80 - 120	100	80 - 120	<0.010	mg/L	NC	20		
7429273	Phenols-4AAP	2021/06/25	96	80 - 120	104	80 - 120	<0.0010	mg/L	NC	20		
7429286	Phenols-4AAP	2021/06/25	99	80 - 120	100	80 - 120	<0.0010	mg/L	NC	20		
7429401	Nitrogen (Ammonia Nitrogen)	2021/06/28	103	80 - 120	106	80 - 120	<0.050	mg/L	5.4	20		
7429564	Total Kjeldahl Nitrogen (TKN)	2021/06/25	102	80 - 120	104	80 - 120	<0.10	mg/L	4.4	20	99	80 - 120
7429739	Total Kjeldahl Nitrogen (TKN)	2021/06/25	NC	80 - 120	104	80 - 120	<0.10	mg/L	2.5	20	102	80 - 120
7429810	Dissolved Mercury (Hg)	2021/06/28	97	80 - 120	97	80 - 120	<0.013	ug/L	NC	20		
7429836	Dissolved Mercury (Hg)	2021/06/28	99	80 - 120	97	80 - 120	<0.013	ug/L	NC	20		
7432616	Conductivity	2021/06/28			102	80 - 120	<1.0	uS/cm	0.78	10		
7432620	pH	2021/06/28			100	97 - 103			0.42	N/A		
7432663	Total Organic Carbon (C)	2021/06/28	87	85 - 115	91	80 - 120	<0.50	mg/L	NC (1)	15		
7432667	Total Organic Carbon (C)	2021/06/28	86	85 - 115	92	80 - 120	<0.50	mg/L	3.8	15		
7432675	Total Organic Carbon (C)	2021/06/29	104	85 - 115	99	80 - 120	<0.50	mg/L	4.8	15		
7461666	1,2,3,4,6,7,8-Hepta CDD	2021/07/18			98	70 - 140	<0.827, EDL=0.827	pg/L	0	25		
7461666	1,2,3,4,6,7,8-Hepta CDF	2021/07/18			89	82 - 122	<0.717, EDL=0.717	pg/L	2.3	25		
7461666	1,2,3,4,7,8,9-Hepta CDF	2021/07/18			102	78 - 138	<1.00, EDL=1.00	pg/L	2.0	25		
7461666	1,2,3,4,7,8-Hexa CDD	2021/07/18			99	70 - 164	<0.984, EDL=0.984	pg/L	3.1	25		
7461666	1,2,3,4,7,8-Hexa CDF	2021/07/18			98	72 - 134	<1.12, EDL=1.12	pg/L	3.1	25		
7461666	1,2,3,6,7,8-Hexa CDD	2021/07/18			91	76 - 134	<0.778, EDL=0.778	pg/L	1.1	25		
7461666	1,2,3,6,7,8-Hexa CDF	2021/07/18			98	84 - 130	<1.04, EDL=1.04	pg/L	3.1	25		



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QUALITY ASSURANCE REPORT(CONT'D)

Stantec Consulting Ltd
Client Project #: 121431175.200.203
Sampler Initials: RM

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7461666	1,2,3,7,8,9-Hexa CDD	2021/07/18			97	64 - 162	<0.866, EDL=0.866	pg/L	0	25		
7461666	1,2,3,7,8,9-Hexa CDF	2021/07/18			95	78 - 130	<1.18, EDL=1.18	pg/L	0	25		
7461666	1,2,3,7,8-Penta CDD	2021/07/18			89	25 - 181	<1.44, EDL=1.44	pg/L	0	25		
7461666	1,2,3,7,8-Penta CDF	2021/07/18			99	80 - 134	<1.07, EDL=1.07	pg/L	0	25		
7461666	2,3,4,6,7,8-Hexa CDF	2021/07/18			99	70 - 156	<1.08, EDL=1.08	pg/L	0	25		
7461666	2,3,4,7,8-Penta CDF	2021/07/18			92	68 - 160	<0.848, EDL=0.848	pg/L	0	25		
7461666	2,3,7,8-Tetra CDD	2021/07/18			84	67 - 158	<1.25, EDL=1.25	pg/L	1.2	25		
7461666	2,3,7,8-Tetra CDF	2021/07/18			101	75 - 158	<0.581, EDL=0.581	pg/L	3.0	25		
7461666	Octa CDD	2021/07/18			90	78 - 144	<1.40, EDL=1.40	pg/L	0	25		
7461666	Octa CDF	2021/07/18			85	63 - 170	<0.635, EDL=0.635	pg/L	0	25		
7461666	Total Hepta CDD	2021/07/18					<0.827, EDL=0.827	pg/L				
7461666	Total Hepta CDF	2021/07/18					<0.837, EDL=0.837	pg/L				
7461666	Total Hexa CDD	2021/07/18					<0.868, EDL=0.868	pg/L				
7461666	Total Hexa CDF	2021/07/18					<1.10, EDL=1.10	pg/L				
7461666	Total Penta CDD	2021/07/18					<1.44, EDL=1.44	pg/L				
7461666	Total Penta CDF	2021/07/18					<0.950, EDL=0.950	pg/L				
7461666	Total Tetra CDD	2021/07/18					<1.25, EDL=1.25	pg/L				



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BV Labs Job #: C1H1486
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QUALITY ASSURANCE REPORT(CONT'D)

Stantec Consulting Ltd
Client Project #: 121431175.200.203
Sampler Initials: RM

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7461666	Total Tetra CDF	2021/07/18					<0.581, EDL=0.581	pg/L				

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Elevated reporting limit due to turbidity.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



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BV Labs Job #: C1H1486

Report Date: 2021/07/21

Stantec Consulting Ltd

Client Project #: 121431175.200.203

Sampler Initials: RM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Angel Guerrero, Supervisor, Ultra Trace Analysis, HRMS

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

Mike MacGillivray, Scientific Specialist (Inorganics)

Phil Deveau, Scientific Specialist (Organics)

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Laboratories
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Chain Of Custody Record

INVOICE INFORMATION:					Report Information					Project Information					Laboratory Use Only					
Company Name #10922 Stantec Consulting Ltd	Contact Name ACCOUNTS PAYABLE	Address 165 Maple Hills Ave Charlottetown PE C1C 1N9	Phone (902) 566-2866	Email SAPinvoices@Stantec.com	Company Name Stephanie Griffin	Contact Name 	Address 	Phone (902) 620-0256	Email stephanie.griffin@stantec.com	Quotation # B90539	P.O. #	Project # 121431175.200.203	Project Name 	Site # R.MUise	BV Labs Job # C1H1486	Bottle Order # 927671				
Regulatory Criteria:					Special Instructions					ANALYSIS REQUESTED (PLEASE BE SPECIFIC)					Turnaround Time (TAT) Required:					
															<input type="checkbox"/> Please provide advance notice for rush projects Regular (Standard) TAT: <small>(will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.</small>					
** Specify Matrix: Surface/Ground/Tapwater/Sewage/Effluent/Seawater Potable/Nonpotable/Tissue/Soil/Sludge/Metal															<input type="checkbox"/> Job Specific Rush TAT (if applies to entire submission) <small>Date Required: _____ Time Required: _____</small>					
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS															# of Bottles	Comments / Hazards / Other Required Analysis				
Sample Barcode Label	Sample (Location) Identification		Date Sampled	Time Sampled	Matrix	Field Filtered & Preserved	Lab Filtration Required	At: RCAP-MS Dissolved (FieldFit) in W	Mercury - Dissolved (CVAA,LL)	Total Kjeldahl Nitrogen in Water	Phosphorus Total Colourimetry	Total Suspended Solids	Chemical Oxygen Demand (COD)	Organic carbon - Diss (DOC) (as ract)	Phenols (AAP)	Atlantic VOCs - Non-Chlorinated Water	PCBs in water by GC/ECD			
1	SH-1		2021-06-17 21		H2O	X	X	X	X	X	X	X	X	X						
2	SH-2		*	*	*	X	X	X	X	X	X	X	X	X						
3	SH-3					X	X	X	X	X	X	X	X	X						
4	SH-4					X	X	X	X	X	X	X	X	X						
5	SH-5					X	X	X	X	X	X	X	X	X	X	X	X			
6	SH-6		2021-06-18 21			X	X	X	X	X	X	X	X	X						
7	SH-8		2021-06-17 21			X	X	X	X	X	X	X	X	X						
8	SH-9		*			X	X	X	X	X	X	X	X	X						
9	SH-10					X	X	X	X	X	X	X	X	X	X	X	X			
10	SH-11					X	X	X	X	X	X	X	X	X						
* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)			Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only										
Kalee Ruth Muisen		21/06/21	4pm	MATT GRACE			21/06/21	9:17		Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?								
										<input type="checkbox"/>	See ACTR	<input type="checkbox"/> Yes	<input type="checkbox"/> No							
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS .															White: BV Labs Yellow: Client					
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.																				

Bureau Veritas Canada (2019) Inc.



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Chain Of Custody Record

INVOICE INFORMATION:					Report Information					Project Information			Laboratory Use Only				
Company Name #10922 Stantec Consulting Ltd	Contact Name ACCOUNTS PAYABLE	Address 165 Maple Hills Ave	Charlottetown PE C1C 1N9	Phone (902) 566-2866	Email SAPInvoices@Stantec.com	Company Name Stephanie Griffin	Contact Name 	Address 	Phone (902) 620-0256	Email stephanie.griffin@stantec.com	Quotation # B90539	P.O. #	Project # 121431175.200.203	Project Name 	BV Labs Job # C1H1486	Bottle Order # 827671	
Site # R. muisue	Sampled By R. muisue	Chain Of Custody Record	Project Manager														
Regulatory Criteria:					Special Instructions					ANALYSIS REQUESTED (PLEASE BE SPECIFIC)							
** Specify Matrix: Surface/Ground/Tapwater/Sewage/Effluent/Seawater Potable/Nonpotable/Tissue/Soil/Sludge/Metal																	
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS																	
Sample Barcode Label	Sample (Location) Identification		Date Sampled	Time Sampled	Matrix	Field Filtered & Preserved	Lab Filtration Required	Dioxins/Furans in Water (1613B)							# of Bottles	Comments / Hazards / Other Required Analysis	
1	SH-1		2024/12/11	1420													
2	SH-2		✓	✓													
3	SH-3																
4	SH-4																
5	SH-5						X										
6	SH-6																
7	SH-8																
8	SH-9																
9	SH-10						X										
10	SH-11																
* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only								
				<i>MATT GRACE</i>		2024/06/22	9:17		Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?						
									<input type="checkbox"/>	<i>See A CTR</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No						
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS .										White: BV Labs Yellow: Client							
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.																	

Bureau Veritas Canada (2019) Inc.



Bureau Veritas Laboratories
200 Bluewater Road, Bedford, Nova Scotia Canada B4B 1G9 Tel:(902) 420-0203 Toll-free:800-563-6266 Fax:(902) 420-8612 www.bvlabs.com

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Chain Of Custody Record

INVOICE INFORMATION:					Report Information					Project Information					Laboratory Use Only		
Company Name Contact Name Address Phone Email	#10922 Stantec Consulting Ltd ACCOUNTS PAYABLE 165 Maple Hills Ave Charlottetown PE C1C 1N9 (902) 566-2866 SAPinvoices@Stantec.com	Company Name Contact Name Address Phone Email	Stephanie Griffin 165 Maple Hills Ave (902) 620-0256 stephanie.griffin@stantec.com	Quotation # P.O. # Project # Project Name Site # Sampled By	B90539 121431175.200.203 R. Muise	BV Labs Job # Chain Of Custody Record C1H1486	Bottle Order #: 827671										
Regulatory Criteria:					Special Instructions: ** Specify Matrix: Surface/Ground/Tapwater/Sewage/Effluent/Seawater Potable/Nonpotable/Tissue/Soil/Sludge/Metal					ANALYSIS REQUESTED (PLEASE BE SPECIFIC)					Turnaround Time (TAT) Required: Please provide advance notice for rush projects		
					Field Filtered & Preserved Lab Filtration Required	At RCap-MS Dissolved (FieldFit) in W Mercury - Dissolved (CV/ALL)	Total Kjeldahl Nitrogen in Water	Phosphorus Total Colourimetry	Total Suspended Solids	Chemical Oxygen Demand (COD) (DOC) Organic carbon - Diss (DOC) (as rec'd)	Phenols (4AAP)	Atlantic VOCs - Non-Chlorinated Water	PCBs in water by GC/ECID	Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.			
													Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____				
													# of Bottles Comments / Hazards / Other Required Analysis				
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS																	
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered & Preserved Lab Filtration Required	At RCap-MS Dissolved (FieldFit) in W Mercury - Dissolved (CV/ALL)	Total Kjeldahl Nitrogen in Water	Phosphorus Total Colourimetry	Total Suspended Solids	Chemical Oxygen Demand (COD) (DOC) Organic carbon - Diss (DOC) (as rec'd)	Phenols (4AAP)	Atlantic VOCs - Non-Chlorinated Water	PCBs in water by GC/ECID	# of Bottles Comments / Hazards / Other Required Analysis			
1	SH-12	JUNE 18, 21	11:20	X	X	X	X	X	X	X	X						
2	SH-13	JUNE 17, 21	11	X	X	X	X	X	X	X	X						
3	SH-14	18	11	X	X	X	X	X	X	X	X						
4	SH-15		11	X	X	X	X	X	X	X	X						
5	SH-16		11	X	X	X	X	X	X	X	X						
6	SH-17	JUNE 18, 21	11	X	X	X	X	X	X	X	X						
7	SH-19	JUNE 18, 21	11	X	X	X	X	X	X	X	X						
8																	
9																	
10																	
* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)			Date: (YY/MM/DD)	Time	# Jars used and not submitted	Lab Use Only							
<i>[Signature]</i> <i>[Initials]</i>		21/06/21	7pm	<i>[Signature]</i> <i>MATT GRACE</i>			21/06/21	9:17	# Jars used and not submitted	Time Sensitive <input type="checkbox"/>	Temperature (°C) on Receipt <input type="checkbox"/> <i>See ACTR</i>	Custody Seal Intact on Cooler? <input type="checkbox"/> <i>Yes</i> <input type="checkbox"/> <i>No</i>					
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.												White: BV Labs	Yellow: Client				
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.																	

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Chain Of Custody Record

INVOICE INFORMATION:						Report Information			Project Information			Laboratory Use Only				
Company Name #10922 Stantec Consulting Ltd	Contact Name ACCOUNTS PAYABLE	Address 165 Maple Hills Ave Charlottetown PE C1C 1N9	Phone (902) 566-2866	Email SAPInvoices@Stantec.com	Company Name Stephanie Griffin	Contact Name 	Address 	Phone (902) 620-0256	Email stephanie.griffin@stantec.com	Quotation # B90539	P.O. # 	Project # 121431175.200.203	Project Name 	BV Labs Job # C1H1486	Bottle Order # 827671	
															Chain Of Custody Record	Project Manager
																Marie Muise
															C#827671-02-02	
Regulatory Criteria:		Special Instructions			ANALYSIS REQUESTED (PLEASE BE SPECIFIC)								Turnaround Time (TAT) Required:			
													Please provide advance notice for rush projects			
													Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests.			
													Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.			
													Job Specific Rush TAT (if applies to entire submission)			
													Date Required:	Time Required:		
													<input type="checkbox"/>			
													# of Bottles	Comments / Hazards / Other Required Analysis		
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS																
Sample Barcode Label	Sample (Location) Identification		Date Sampled	Time Sampled	Matrix	Field Filtered & Preserved	Lab Filtration Required	Dioxins/Furans in Water (1613B)								
1	SH-12															
2	SH-13															
3	SH-14															
4	SH-15															
5	SH-16															
6	SH-17															
7	SH-19															
8																
9																
10																
* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only							
<i>Rachel</i> <i>Louise MacLean</i>		21/06/21	4pm	<i>Stephanie GRACE</i>		21/06/22	9:17		Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
See ACTR																
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS .																
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													White: BV Labs	Yellow: Client		

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